WHAT'S AHEAD: SPECIAL REPORT TO MANAGEMENT

JANUARY 17, 1966

RAILWAY AGE
WEEKLY

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1965 REVIEW

1966 OUTLOOK

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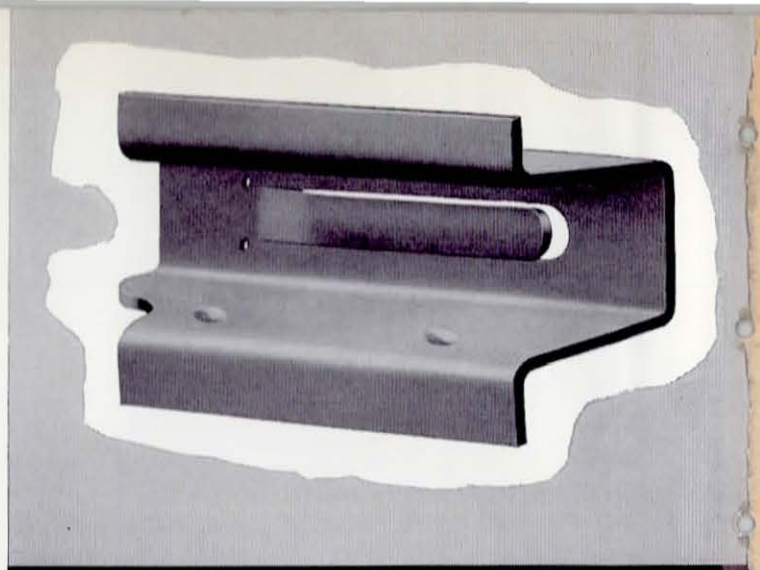

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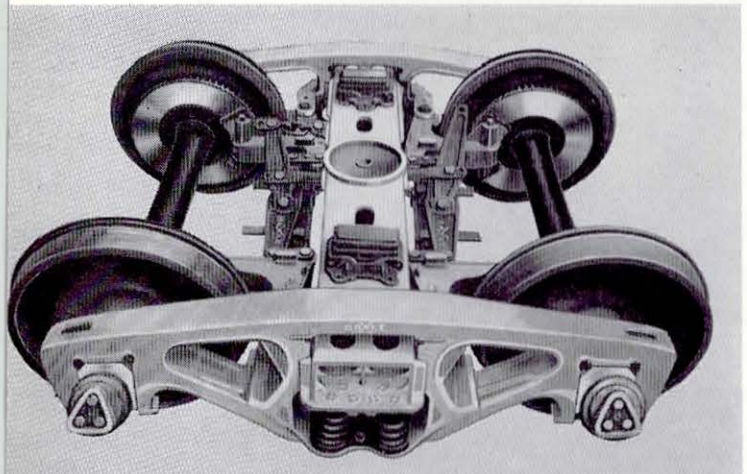

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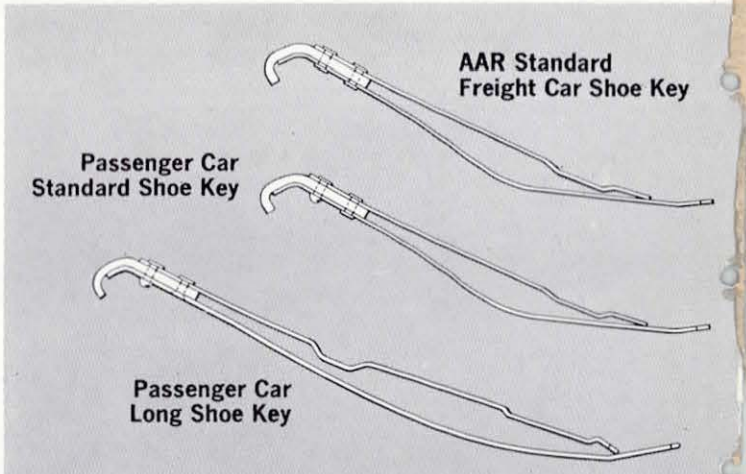

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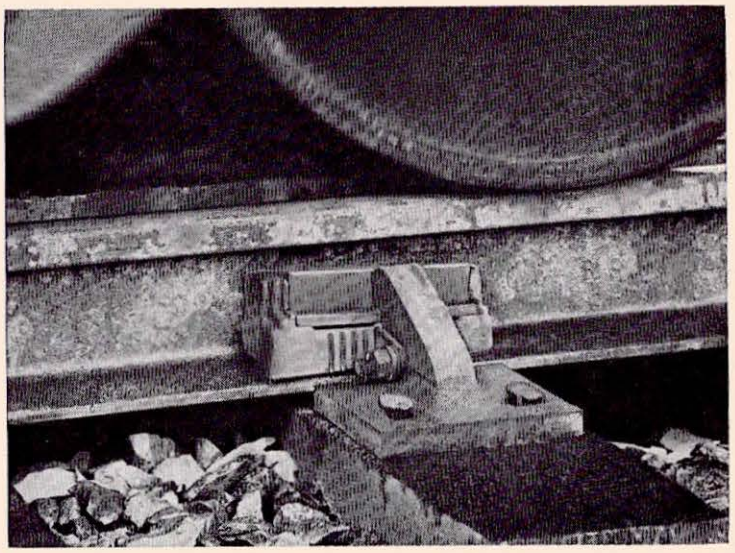
Thrusts and impacts won't knock this rail brace out

Some very special features make Bethlehem's Model 811 Rail Brace such a stubborn little brute. At the bottom is a steel plate, roughly similar to a regular tie plate. Welded to the plate is the bracing member. A tapered wedge containing an angular steel spring piece fits snugly into place between rail web and brace.

Steel for Strength



When the wedge is driven sufficiently tight to compress the spring about 1/32 in., the pawls on both sides of the brace are turned down into the slots milled into the wedge. This locks the assembly together; the rail just has to stay put! And there are only two pieces in the whole assembly.

Adjustments can be made very easily, in increments of 1/16 in. The only tools required for either installation or adjustment are a spike maul and a wrench. A Bethlehem engineer will be glad to explain the 811 Rail Brace in full detail.

BETHLEHEM STEEL

BETHLEHEM STEEL CORPORATION, BETHLEHEM, PA.

BETHLEHEM STEEL

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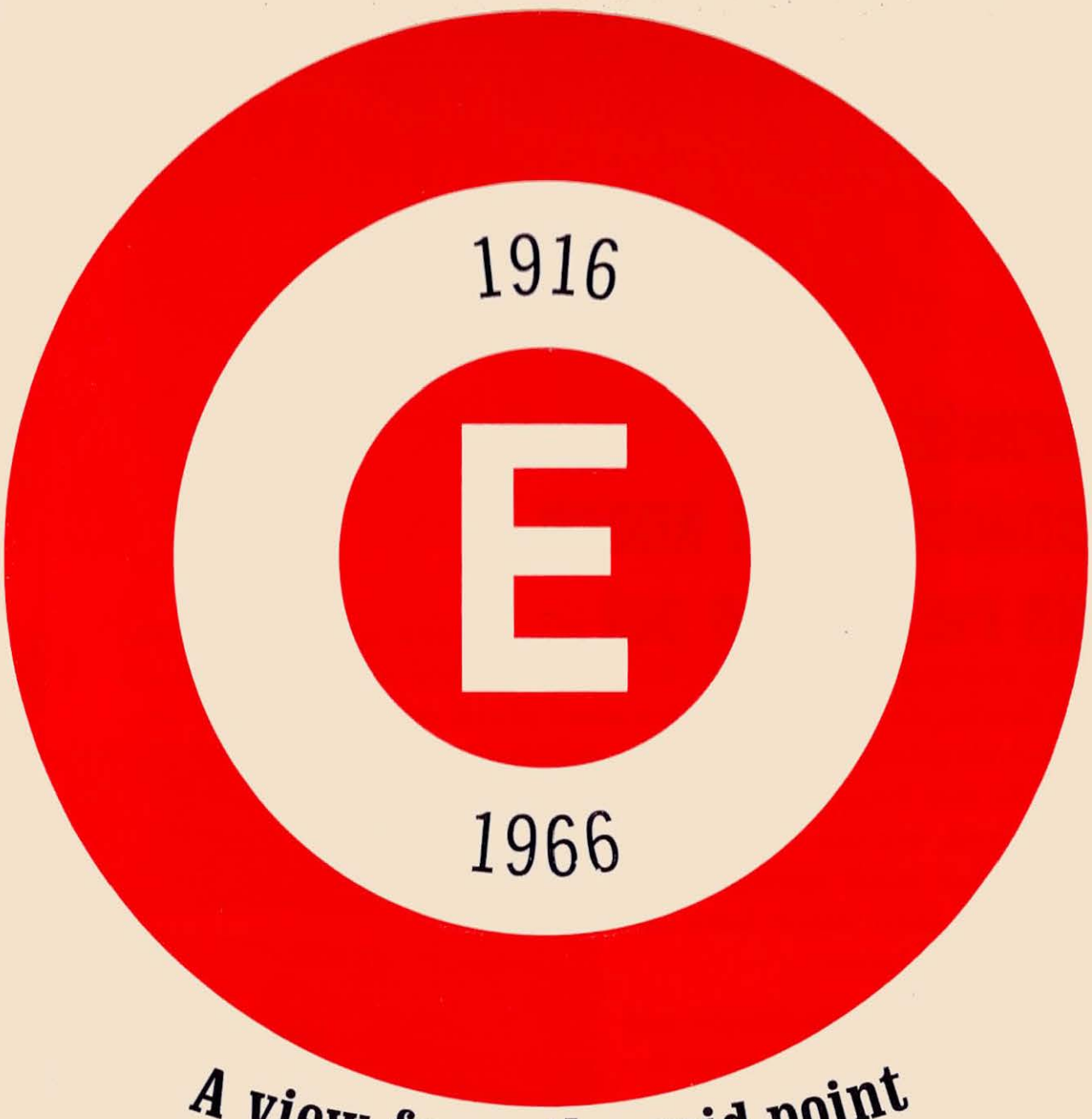

A view from the mid-point of our first century

Edgewater Steel Company was founded on a new idea, and new ideas have been generated here ever since. The first was a better way of forging and rolling wrought steel wheels for railroad service, using mill equipment designed and patented by the founder. Later, the process was extended to making weldless steel rings for industrial products. The new process proved to be a distinct improvement over previous methods of making wheels and rings. □ Since 1916, constant technological advances in equipment, processes, and materials have enabled Edgewater to develop products to anticipate requirements undreamed of a half-century ago. Today, improved Edgewater wheels are found on rolling stock of all major United States' and many foreign railroads, carrying heavier loads at higher speeds; improved Edgewater rings are found throughout the antifriction bearing industry, deep in the oceans in submarines, far above the earth in jet engines and in missiles and rockets. □ And, tomorrow? We look forward with confidence that continued research for new products and methods will enable us to develop new ideas that will provide products and services of even higher quality for our customers.

Edgewater Steel Company
Pittsburgh, Pa. 15230
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RAILWAY AGE

January 17, 1966 • Vol. 160, No. 2

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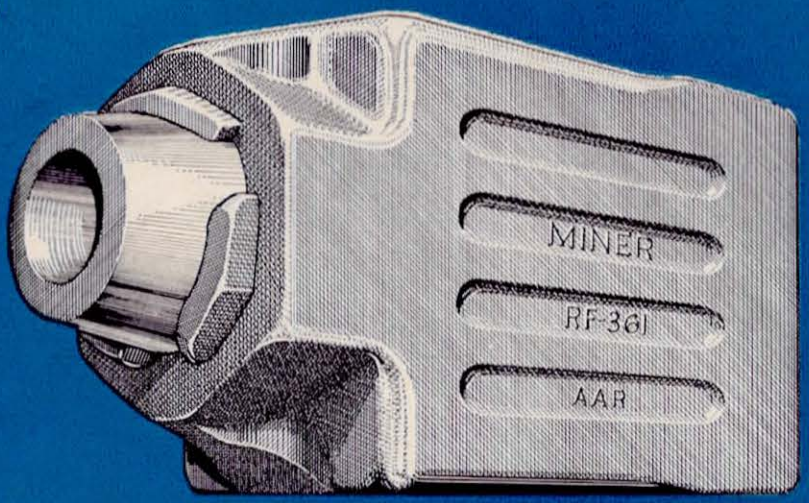

The A.A.R. Specifications M-901 E-59 spell out the very latest requirements for friction draft gears in increased capacity, endurance and sturdiness. Miner's RF-361 draft gear is UNCONDITIONALLY APPROVED for standard 24⅝" pockets and, in fact, considerably exceeds the specified protection required. Improved metallurgy and metallic lubrication assure that Miner's RF-361 is the most reliable device of its type. Insist on this draft gear to more effectively protect lading and guard your cars from damages due to operational stresses.

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SHORT AND SIGNIFICANT

Piggyback: The motorist's best friend

Intercity highways are still choked with more tractor-trailer combinations than an irate motorist can shake a fist at, but the situation could be worse —and would be worse without the railroads. Last year, railroad piggyback siphoned 2,000,000 highway trailers off the concrete and onto the rails. (Piggyback racked up its first million-revenue-carload year. Each car carried an average of 1.6 trailers. In addition, several hundred thousand empty trailers got back-hauls by rail.) Piggyback now accounts for 3.5% of total railroad carloadings, and is equivalent to around 10% of intercity freight volume still moving over highways. Prospects are bright for further swift growth in 1966—and further relief of highway congestion.

●

SAL passenger revenues climb to 13-year high

"Seaboard likes passengers"—and never loses the opportunity to say so, in ads and promotional material. Passengers appear to like the Seaboard, too. James R. Getty, the road's general passenger traffic manager, reports that passenger revenues rose 1.5% in 1965, and were the highest in 13 years. Seaboard's passenger revenues today are just about double those of the pre-World War II period. Big factor, says Getty, is the increasing year-round popularity of resort areas served by the railroad. Also at work for the Seaboard: vigorous promotion, and a thorough upgrading of passenger equipment.

●

First contract awarded for D.C. rail system

De Leuw, Cather & Co. of Chicago has been awarded a $719,400 contract for "conceptual engineering" of the first four-mile segment of a 25-mile subway system for Washington, D.C. Walter J. McCarter, administrator of the National Capital Transit Authority, said design work for the first section (which will run from the Capitol to Farragut Square, at Connecticut Ave. and K St., N.W.) will be completed by July 1. First trains will run by 1970, and the entire system will be in operation by the end of 1972.

●

Chemists oppose report in tank-car case

The Manufacturing Chemists' Association took sharp issue last week with the findings of an ICC examiner in the tank-car case (RA, Jan. 3/10, p. 30). Examiner J. S. Kaplan would eliminate (in favor of rate adjustments) allowances now made by railroads for use of tank cars furnished by shippers. MCA opposes this solution because "it would reimpose upon industry the financial burden the multi-level allowance system was designed to relieve, and allows for no future relief as car costs rise in the coming years." The Chemists also feel that the Kaplan plan "would complicate pricing policies and disrupt marketing relationships of individual chemical producers."

●

Radical changes planned in New York subway cars

Some 400 new cars will be added to New York City's subway fleet in 1966 —and, says the Transit Authority, they will be "dramatically different in exterior and interior." The Authority's three commissioners, in an unprecedented move, engaged the industrial designing company headed by Raymond Loewy to design the new car. The company will build a full-scale mock-up of its new design, which is due within 60 days. The NYCTA commissioners noted: "Interesting developments in increasing the eye-appeal and riding comfort of rapid transit cars have been made in recent years. Examples are the cars of the Port Authority Trans-Hudson line [built by St. Louis Car] and the car design developed by United States Steel."

MONDAY MORNING REPORT

Airplane builders look for new markets . . .

It's no secret that aircraft and aerospace manufacturers have, in recent months, been sniffing around the railroad passenger-car market. That market is not a very big one at the present. But the federal government has lately been showing an interest in railroad passenger service. And the airplane builders have good reason to know what a heavy spender Uncle Sam can be.

. . . and United Aircraft finds one, in rail cars

Now, patience—and a new engineering concept—appear to have been rewarded. The Department of Commerce was reported ready last week to announce that United Aircraft will be the prime contractor for six gas-turbine cars that will be used—initially, at least—in the Northeast Corridor project between Boston and Providence. The cars will be constructed by an old-line railway carbuilder—but power will be supplied by United Aircraft turbine engines. Powerplants proposed for railway application are modified models of the Pratt & Whitney PT-6 free-turbine engine, now used in helicopters and fixed-wing turbo-prop airplanes. The cars, incorporating aerodynamic design features, are planned for top speeds of 160 mph.

Turbine trains will run Boston-to-Providence

Most railroad men will welcome this contribution to research in the railroad field. But many feel that what money is available ought to be used in areas likely to be most productive, and the question is going around: No matter how practical the gas-turbine train may be, from a technical and operating standpoint, is it likely to prove successful in developing traffic between Boston and Providence? Aren't these cities, only 45 miles apart, already well served with reasonably fast, frequent train service? Hasn't the recent completion of new superhighways between these cities, with an infinite distribution pattern available at each end, created super competition?

Did politics dictate choice of a test site?

There is reason to believe that political factors may have played a bigger role than practical considerations in the selection of Boston-to-Providence for the gas-turbine tests. But the question arises: Would not even politics be better served if these experiments were undertaken between cities away from the eastern seaboard, and with less potential for failure? Chicago-St. Louis, for example, with lots of population both to ride and to vote, would be a sufficiently long run to make accelerated service a real attraction.

New York-Washington tests stand a better chance

Qualms have also been expressed about a bigger Northeast Corridor project —that involving the Pennsylvania and high-speed service between New York and Washington. Some fear that less-than-dazzling success here might cast a cloud over the whole future of railroad passenger service. The Pennsylvania, however, is going into the tests with high confidence, and that counts a lot. Last week, in announcing April 1967 as the target date for beginning operation of the fast New York-Washington trains, PRR's James W. Diffenderfer (the railroad's director of special services) commented: "With good metropolitan distribution systems, an average speed of 125 mph on improved surface transportation will be sufficient to meet the needs of this area in the foreseeable future—taking into consideration the anticipated technological developments of air and highway." In any case, in the opinion of informed observers, high speed trains have a far better chance of proving themselves along the 226 miles between New York and Washington than over the 45 miles that separate Boston and Providence.

NOW... undercut 0″ to 6″ beneath bottom of tie, remove & clean, or waste, ALL ballast, remove bad ties and leave smooth, undisturbed sub-ballast with the . . .

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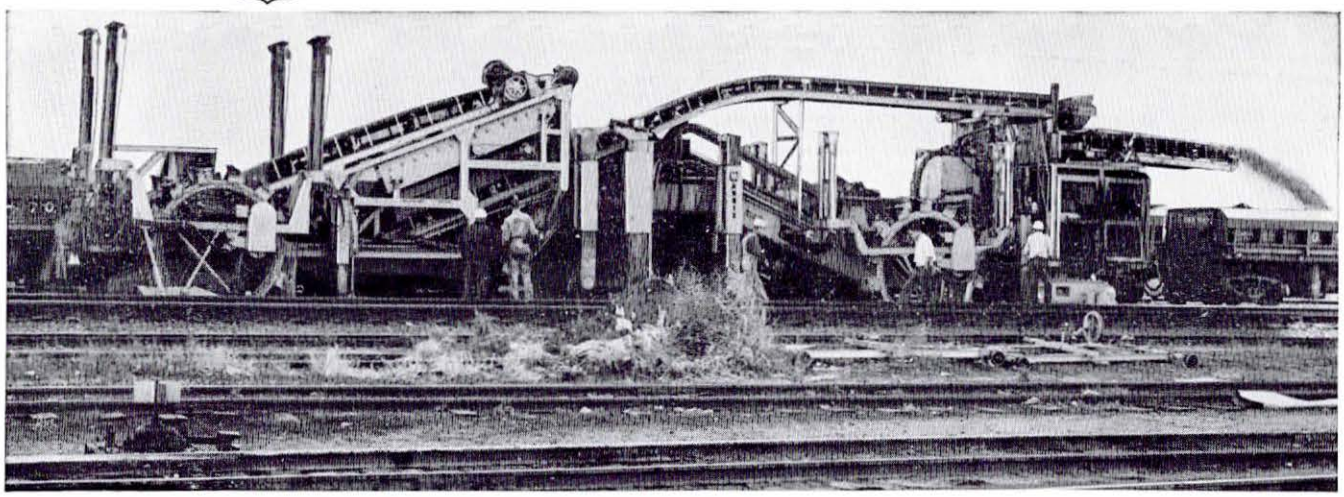

ONE PASS of this amazing, self powered machine does all of these things with a minimum crew and no work train. Cleaned ballast is returned to track in three areas; between rails, to either side, or all three. Waste materials can be loaded directly into gondolas or cast to either side of track or tracks. Follow-up equipment can work immediately behind machine. Traffic can pass on adjacent track. Rehabilitates and returns track to service faster than any other method or equipment.

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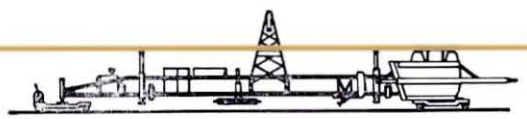

AUTOSLED

Sleds ballast, removes ties and aligns track with 4 man crew. Hydraulic power jacks up track and inserts or removes built-in sled, removes ties, aligns track. Ideal for yards, branch lines, areas where undertrack equipment must be inserted and removed frequently.

AUTOTRACK

Plow or sled, remove ties and align track for slow order traffic with one pass of the MANNIX Autotrack. A few men will work more feet of track with more uniform results than a large crew using old equipment and methods.

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Helping the wheels turn swiftly and surely is MAGNUS, a name known and respected for its service to railroading. For more than 80 years, MAGNUS has served railroads with the finest in bearings, journal box components and diesel parts—products of unsurpassed reliability with longest bearing life and lowest cost operation.

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WEEK AT A GLANCE

For railway suppliers: A $4-billion market

How big is the railway market? Most commonly used yardstick—the one that is currently making such big, bullish headlines on the financial pages—is capital spending. Railroads are headed for another record year in that category: the 1966 figure will be close to $1.7 billion. And that's only half the story.

Railroads will spend almost as much again—$1.6 billion — for fuel, material and supplies. Another $300 million will be spent for new rolling stock by private car lines and car leasing companies. To that can be added several hundred millions that will flow into supplier tills from industrial and mining railroads, and from the transit industry.

Best guess for the total railway-supplier market in 1966: in the neighborhood of $4 billion.

Will the market keep growing? Allowing for cyclical fluctuations, the answer has to be yes. If rails merely retain their present 43% share of intercity traffic, experts figure their volume will rise 50% by 1975. To do the job, spend they must.

Big PATH order goes to GSI

First big passenger-car order of 1966 has already gone on the books. New York's Port Authority Trans-Hudson system awarded a $5,311,000 contract to General Steel Industries, St. Louis Car Division, for 44 aluminum, air-conditioned transit cars. They will join the $18.6-million fleet of 162 cars which St. Louis Car delivered to PATH last year.

The new cars, says S. Sloan Colt, chairman of the Port of New York Authority, will carry the additional PATH passengers generated by New Jersey's Aldene Plan, which will reroute trains of the Jersey Central over rights-of-way of the Lehigh Valley and the Pennsylvania to Pennsylvania Station in Newark. Delivery will begin in September and be completed by year-end. Fourteen of the new cars will be equipped with cabs for motormen; 30 will be motorized trailer cars. Cab-equipped cars will seat 43 passengers; trailer cars, 46.

Coal-atom controversy generates new steam

One out of every six freight cars that move on U.S. railroads is loaded with coal—and anything that threatens this traffic is of deep concern to the industry. One such threat is atomic power. Railroads have long contended that the atom is, for the foreseeable future, an uneconomic source of power. Last week they found support for their position—from the Atomic Energy Commission. Large nuclear reactors now being built, the AEC determined, do not presently have "practical value." The National Coal Policy Conference hailed the ruling as a "realistic evaluation" that "will undoubtedly cause many [utilities] to hesitate a long time before choosing a nuclear source of fuel, rather than coal or one of the other proven conventional fuels."

While the battle rages on the power-politics front, railroads are busy piling up new coal-hauling records. Norfolk & Western has just disclosed that 78.3 million tons of coal traffic originated at mines along the N&W in 1965—largest amount in the road's history. Eight old mines were reactivated last year, and in the next two years N&W expects seven to nine more mines to be reopened.

COAL LOADINGS: The Trend is Up

1961	5,086,001
1962	5,268,966
1963	5,532,976
1964	5,547,233
1965	5,679,188

Now being served: Crew-consist notices

Another go-round on crew consist may be coming up. Notices are being served, covering both road and yard crews, which would eliminate rules requiring use of a stipulated number of brakemen and which would establish an unrestricted-right rule giving management the sole say in determining use of brakemen. Indications are that the notices are being served broadly, except on roads where consist agreements have been reached. In the past, the Brotherhood of Railroad Trainmen has taken the position that such issues must be negotiated to a settlement on individual properties and the word from the BRT is that no change in that position is in the offing.

Piggyback—With a Midwestern-French accent

Morris Forgash, president of United States Freight Co., believes 1966 will see "great developments in intercontinental containerization"—and he's doing his part to make the prediction come true. Universal Carloading & Distributing Co. (USF's largest freight-forwarder subsidiary) greeted the New Year with announcement of "through piggyback-fishback container service, Chicago and Paris." The single-bill-of-lading, one-carrier service will link shippers and receivers of five midwestern states (Illinois, Indiana, Minnesota, Wisconsin, Iowa) with 11 cities in France. A newly acquired USF subsidiary, La Generale de Transports, will handle the containers in France. USF is already handling containers between Chicago and London (England) for the U.S. Post Office Department, and recently announced through container service from Los Angeles to Belgium. Says Forgash: "Other areas both within the United States and Europe will be added rapidly in 1966."

WATCHING WASHINGTON WITH WALTER TAFT

TAFT

THE INGOT MOLDS CASE is on its way to fame as a precedent setter on rate-making freedom. The railroads have taken it to court where they seek to have the ICC's decision set aside.

By that decision, in I&S No. 8038, the Commission reversed its Division 2, condemning reduced rail rates published to bid for shipments of ingot molds moving over truck-water routes from Pittsburgh, Pa., to Steelton, Ky. The adverse ruling drew a vigorous dissent from Commissioner Howard G. Freas. He said it invited "reversal in court" (RA, Dec. 13, 1965, p.12).

THIS PREDICTION was based on Freas' finding that the decision marked abandonment of compliance with the 1958 Transportation Act's rate-freedom provision. The Commission, Freas said, had resumed its pre-1958 practice of "indulging in the arbitrary allocation of traffic."

THIS PRACTICE was supposed to have been proscribed by the rate-freedom provision—now Section 15a(3) of the Interstate Commerce Act. Commission decisions interpreting the provision have granted much rate-making freedom in individual cases.

THE RAILROADS remain unhappy, however, about the Commission's general rule which makes fully-distributed cost, rather than out-of-pocket-costs-plus, the basis for identifying the low-cost carrier in a competitive-rate situation. The full-cost rule is to the fore in this case.

DIVISION 2'S FAVORABLE DECISION did not abandon it. It found an exception justified because the water carriers were voluntarily maintaining rates below their own full cost. The ICC struck this down, saying the water carriers did not thus lose their advantage as the low-cost mode.

THE CONDEMNED RATES are published by the Pennsylvania and Louisville & Nashville. They instituted the court proceedings, but many other roads are expected to become supporting interveners.

THE PLEADINGS assail the Commission's decision as one which violates the whole rate-freedom provision, i.e., its specific requirements and its general call for "due consideration of the objectives of the national transportation policy."

THE COMMISSION leaned heavily on this general call in framing its disagreement with Division 2. PRR and L&N told the court that the decision contravenes the policy in denying the railroads the right to make rates reflecting their inherent advantages of cost and service.

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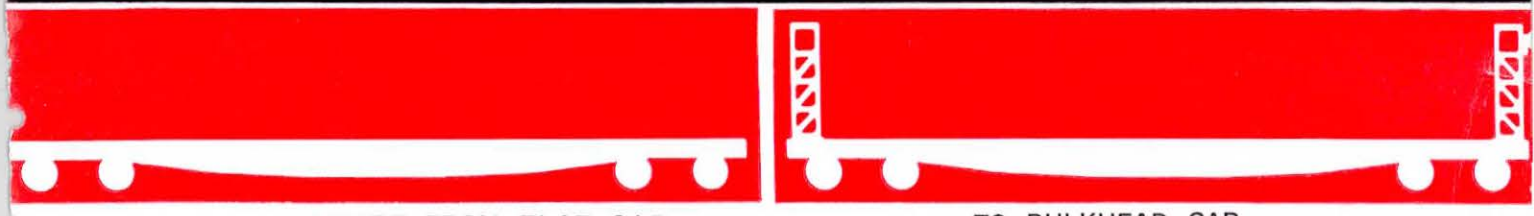

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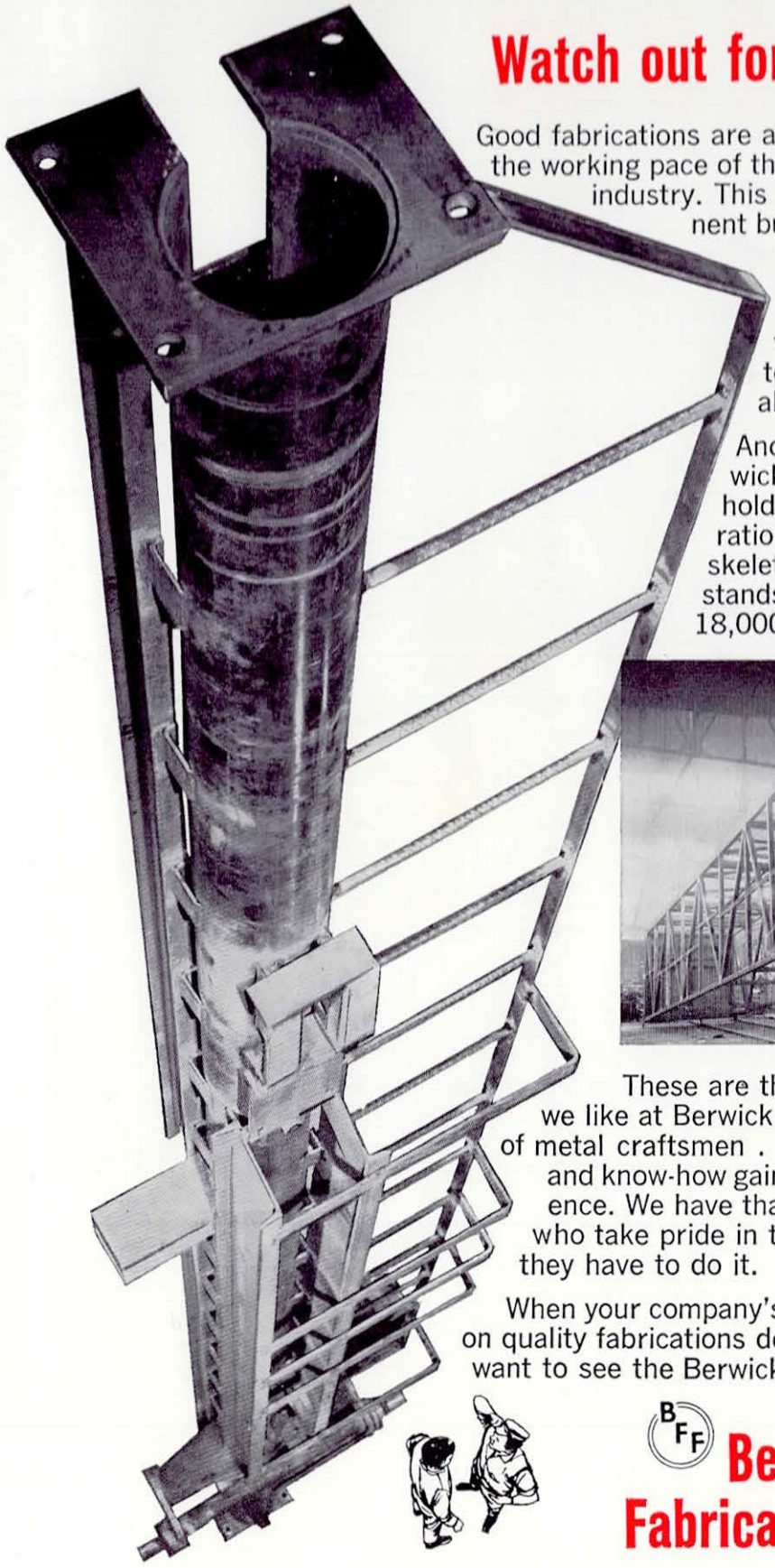

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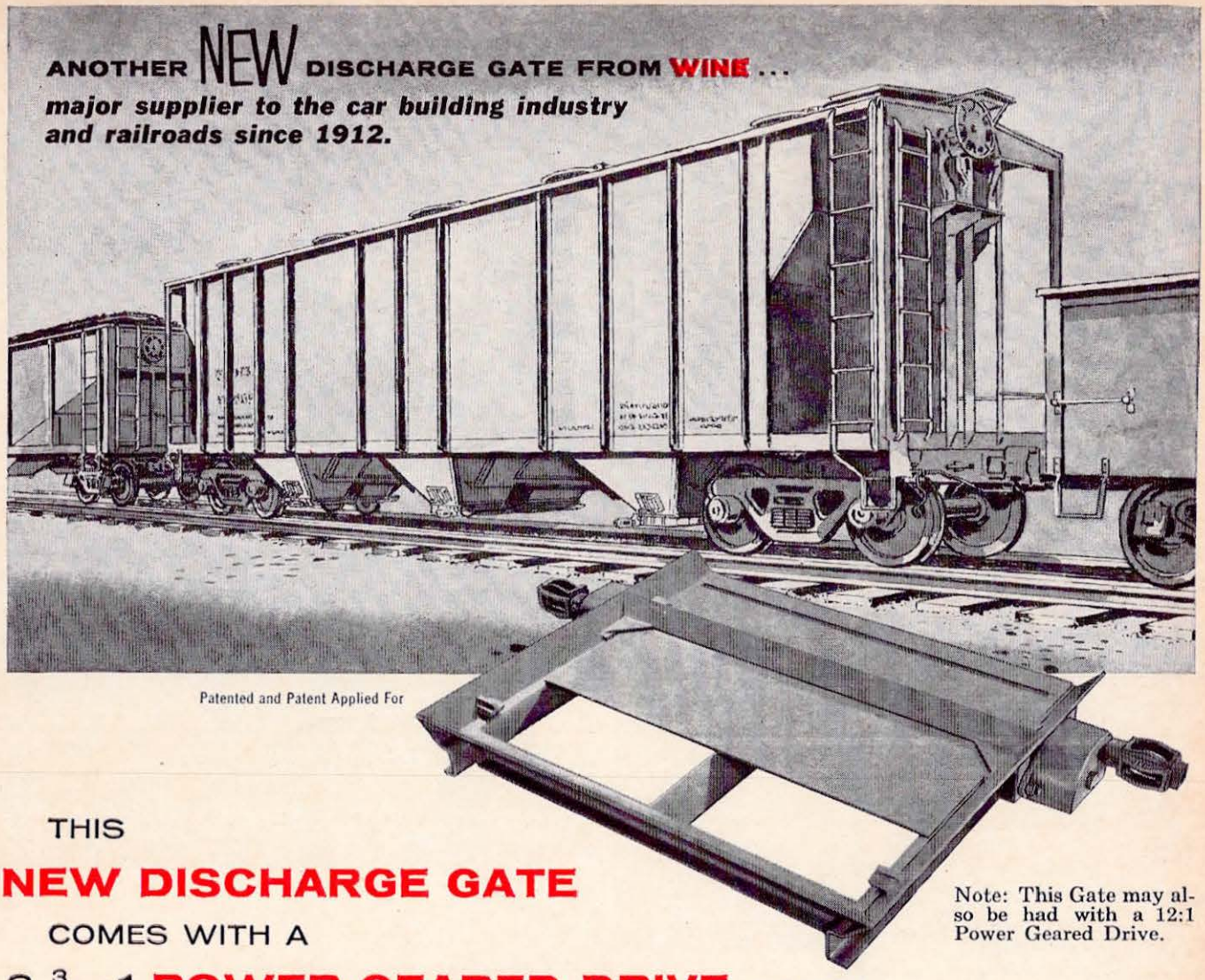

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THIS

NEW DISCHARGE GATE

COMES WITH A

3 3/10 :1 POWER GEARED DRIVE RATIO!

Note: This Gate may also be had with a 12:1 Power Geared Drive.

OPENING: Approximately 25″ x 48″.

DRIVE: Power geared drive with 3 3/10:1 reduction ratio.

OPERATION: Extra easy and convenient. Operator works whichever side is most convenient; opening capstans are on either side of frame.

CONSTRUCTION: Gears for drive mechanism are completely machined; precision steel castings; fabricated steel frame.

APPLICATION: Comes assembled ready for welding *or* bolting, as specified. As with other Wine Gates, you just position and attach. No fitting is necessary. No extra parts are needed.

OTHER SIZES, TYPES: Wine is prepared to supply any type and size (direct drive or power geared) Discharge Gate to individual customer needs, including the popular 13″ x 24″, 13″x42″, 24″x30″ and 25″x48″ sizes. For special conditions and commodities, all Gates can also be furnished hot dip galvanized or nickel-plated. The Power Drive Mechanism is adaptable to any car. For details on newest Power Geared Discharge Gate (3 3/10:1 ratio), see your local Wine sales representative or write the factory.

PRODUCER OF OVER FIFTEEN *THOUGHTFULLY ENGINEERED* QUALITY APPLIANCES *PLUS* CUSTOM CASTINGS BY UNITCAST

THE WINE RAILWAY APPLIANCE CO.

DIVISION OF UNITCAST CORPORATION • TOLEDO, OHIO 43609
Canadian Manufacturing Division: *Canadian Unitcast, Ltd.*, Sherbrooke
Sales and Service: *The Holden Co., Ltd.*, 614 St. James St., W., Montreal

WINE RAILWAY APPLIANCES

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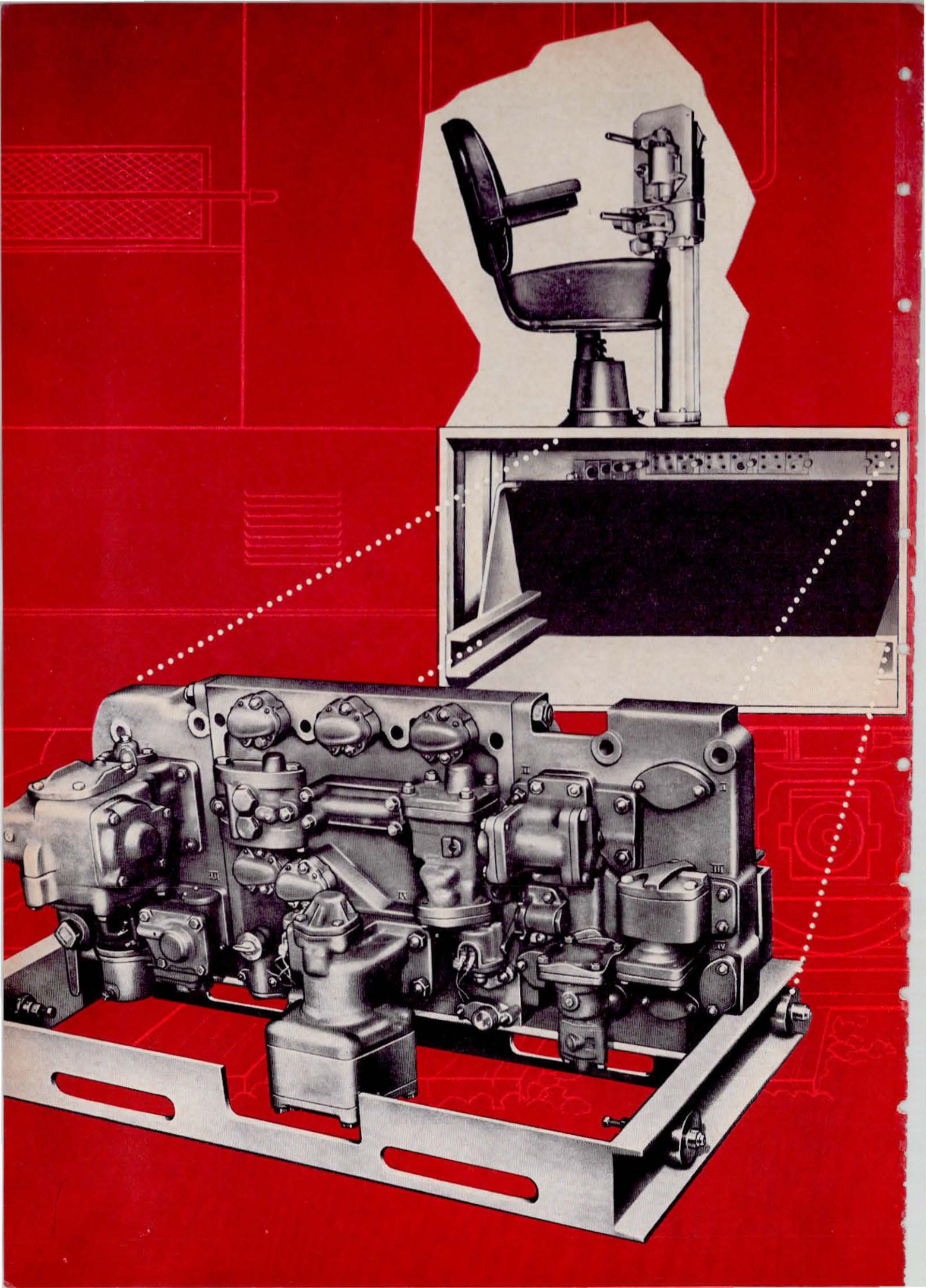

WABCO's New 26-L Unitized Brake Equipment with interchangeable panel keeps locomotives on the go

Here is the first panel-mounted locomotive brake control system. It cuts costly "out of service" time through quick and easy maintenance procedures. Remove eight nuts, and the entire panel can be replaced with another panel.

Locomotive builders save time and money with the new WABCO 26-L Unitized Brake Equipment. The panel-mounted control devices minimize pipe fittings problems since piping is greatly reduced. Separate mounting bracket for each device is eliminated, and ordering and inventory are greatly simplified.

Railroads eliminate many maintenance problems because any panel-mounted control device can be removed from the panel without disturbing the other devices and without breaking any pipe connections. Because all these devices feed through one common manifold, the possibility of leakage is greatly reduced.

The panel-mounted control devices are standard 26-L equipment components and designed to eliminate trouble—there are no piston rings, slide or rotary valves. The magnet valves, double check valves, and check valves are improved designs that are simpler and permit extended periods between cleaning.

For complete information, contact your Westinghouse Air Brake Division representative.

WABCO

WESTINGHOUSE AIR BRAKE DIVISION

WILMERDING, PA./Westinghouse Air Brake Company

GEARED TO PROGRESS P R I MEMBER

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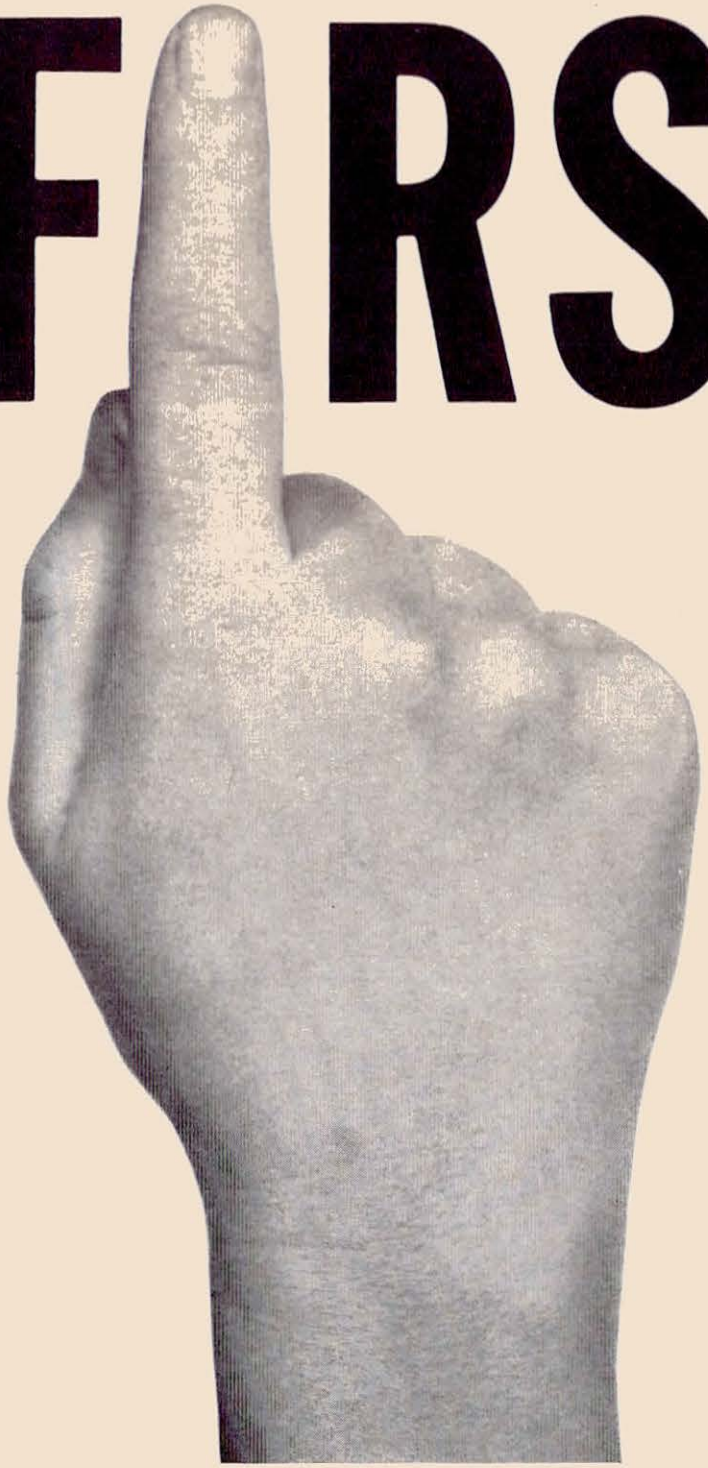
FIRST



Pardon us for boasting . . . but we're **FIRST** . . . and our customers love it! Yes, we were **FIRST** to introduce and produce the All Steel, Corrugated and All Corrugated with Lift-Type Mechanism Door **FIRST** with the Plug Door **FIRST** with the Plug and Corrugated Combination Door **FIRST** with the Double Plug Door **FIRST** with Grain Access Plug Door **FIRST** with the Automatic, Single Sheathed Plug Door **FIRST** with the All Aluminum, Automatic Double Plug Door for Hy-Cube Cars **FIRST** with Automatic Double Plug Doors for Auto Parts Cars **FIRST** with Corrugated Sliding Doors for Auto Parts. **YOUNGSTOWN** is **FIRST!** Why settle for imitations. When you work with **YOUNGSTOWN** . . . you'll be first in your field, too!

THE YOUNGSTOWN STEEL DOOR COMPANY

CAMEL SALES COMPANY
CAMEL COMPANY LIMITED

CLEVELAND • CHICAGO
YOUNGSTOWN • HAMMOND

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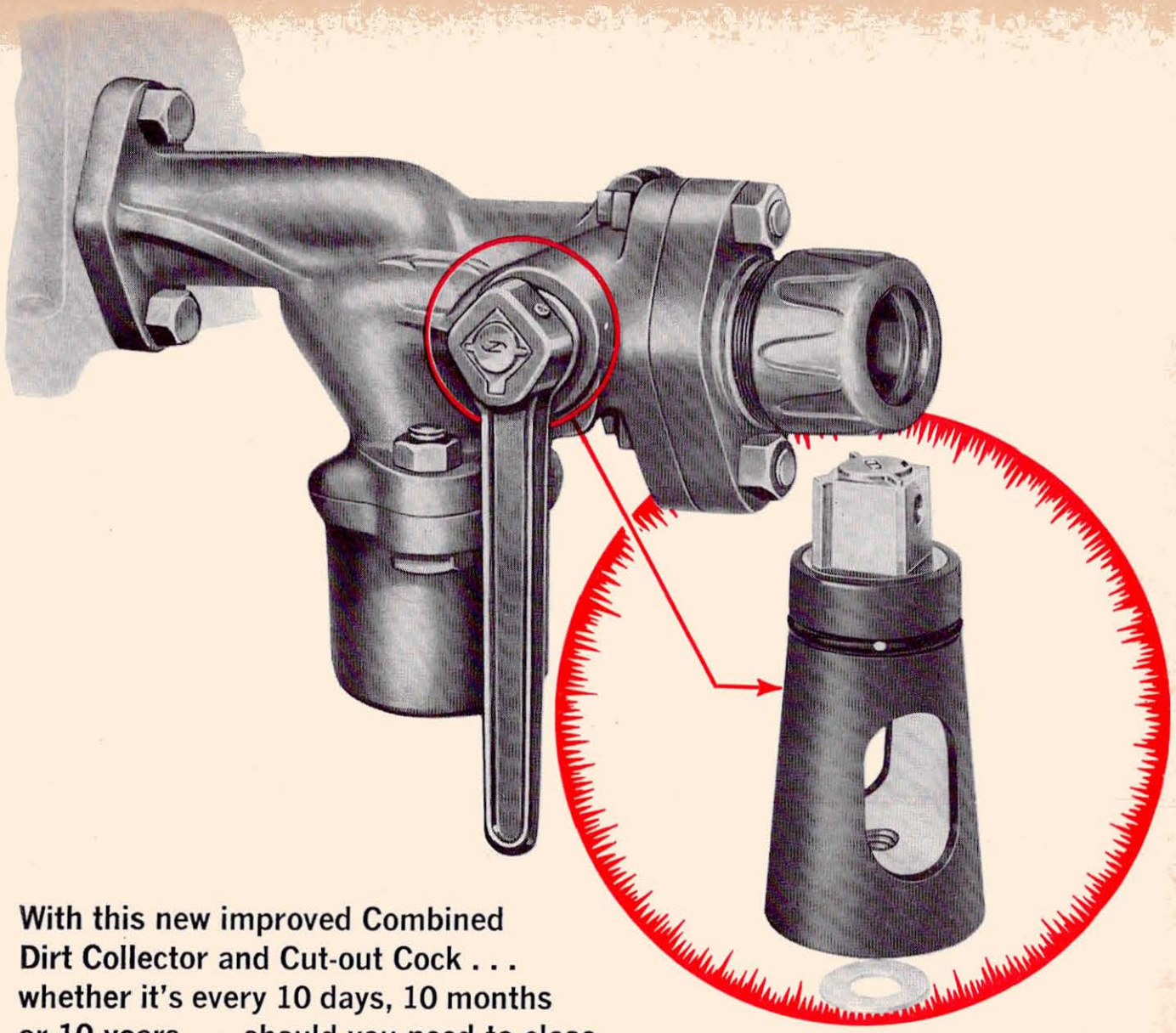

With this new improved Combined Dirt Collector and Cut-out Cock . . . whether it's every 10 days, 10 months or 10 years . . . should you need to close the Cut-out Cock, you can be sure—

THIS KEY TURNS!

FOR NEW CARS
—specify complete ass'y Pc. N-8916

FOR UPGRADING
—specify Nylatron Key with "O" Ring Seal, Pc. DC-1121-C —easily refitted in existing bodies.

The NYLATRON shell on this Key eliminates sticking, galling or freezing. This is not a surface coating—but a bonded shell of self-healing plastic with low friction characteristics that will last the life of the car. Even after long periods of disuse, this Key operates smoothly, easily, surely . . . any time!

Write for full information.

Another Product Innovation by—

CLOSED TO PROGRESS
PRI MEMBER

THE NEW YORK AIR BRAKE COMPANY
230 PARK AVENUE · NEW YORK, N. Y. 10017

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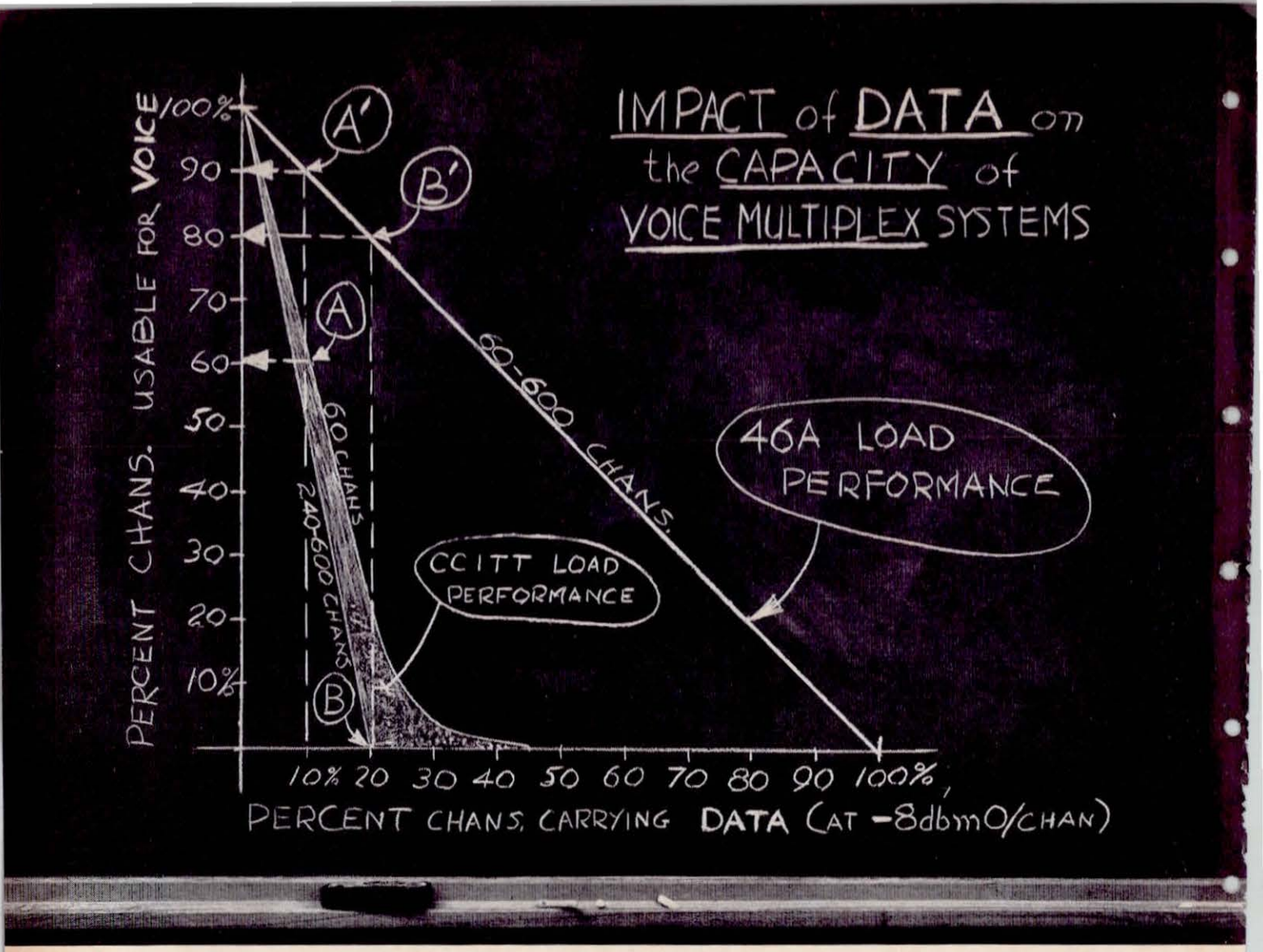

Here's the solution. Now: What's the problem?

Data is the problem. Can your communications facilities handle the growth of data traffic? Experts predict that by 1975 as much as 50% of your communications load will be data.

The cause of the trouble is data's loud voice. The established input level to a multiplex voice channel for multi-channel telegraph, data phone, or similar traffic is –8dbm0. But most of today's multiplex systems are designed to CCITT recommendations for voice loading, which is a lot less than data levels. Since you cannot decrease the data input level without drastically increasing error rate, you must reduce the channel capacity of most multiplex systems to balance the extra power load imposed by data.

That's what the graph above is all about.

The shaded area covers standard (CCITT) multiplex load performance based on established signal levels for data and voice, with a maximum noise contribution of 23 dba. The performance curve for Lenkurt's 46A is based on exactly the same loading conditions. The difference is the 46A's *4db better* noise performance, and a little noise makes a lot of difference.

Exactly how much difference appears on the graph. If, for example, you have a 60-channel CCITT system and 6 channels (10%) are needed for data, you can see at point *A* that only 60%, or 36 of the remaining channels, are usable for voice. *You've just lost 18 voice channels.* But with the 46A, all the remaining 54 channels are usable for voice (see point *A'*).

Now let's step ahead a few years: You have a 300-channel CCITT system and need 60 of them (20%) for data traffic (Point *B*). You have to remove *all the rest* of your channels from service. What's worse, you'll have to carefully distribute those 60 data channels throughout the full system to prevent overloading your group and supergroup amplifiers. And if your microwave system is not rated better than CCIR performance, it might not be up to handling this load, either.

Lenkurt's 46A, though, under the same conditions, leaves *all of the remaining 240 channels* available for voice traffic (Point *B'*). And our 75 and 76 microwave systems, which are rated much better than CCIR, can easily handle this load.

So the problem is data vs. voice loading. The solution lies in Lenkurt's design criteria, which considers future traffic loads as well as today's. We consider anything less than that to be shortsighted.

For the complete story of the *impact of data on the capacity of voice multiplex systems,* contact your nearest Lenkurt office or send for our new 46A engineering manual: 46A-ENG/EE. Lenkurt Electric Co., Inc., San Carlos, California. Offices in Atlanta, Chicago, Dallas, New York, San Carlos.

LENKURT ELECTRIC

SUBSIDIARY OF
GENERAL TELEPHONE & ELECTRONICS GT&E

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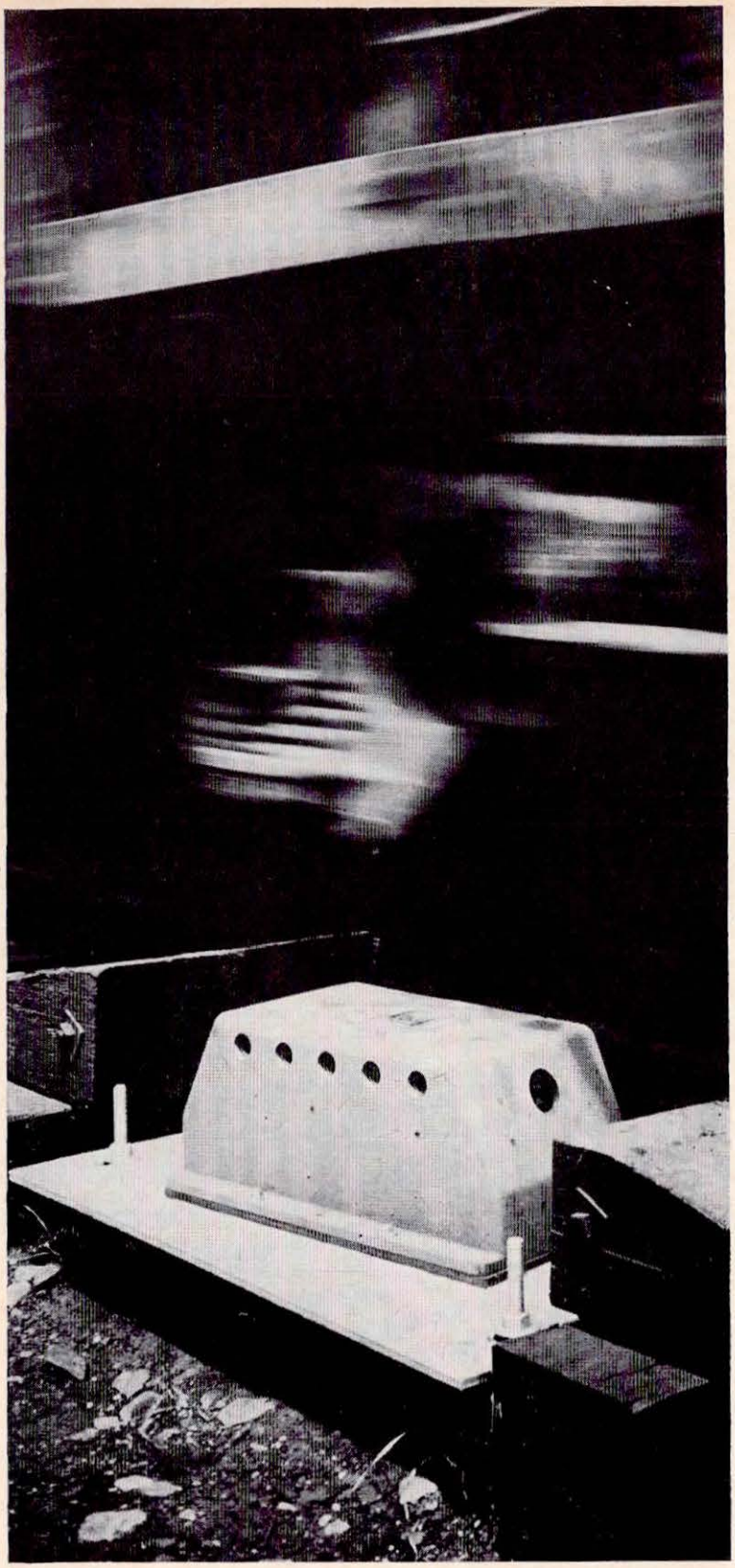

How to stop hot box derailments, damage, and delays

Back in 1956, Servo engineers perfected the technique of remote hot box detection by means of infrared. They looked at every conceivable location on and around the journal box for the most reliable indication of journal bearing heat. The best accessible area, substantiated by scientific tests made by the railroads themselves, proved to be the *trailing (and leading) surface of the journal box.*

Trailing (or leading) surface of journal box.

Tests prove that temperature of trailing or leading surface of journal box is proportional to temperature at journal-bearing interface. Presenting a low-mass path of thermal flux from the bearing, this surface rapidly reflects changes in the temperature of the bearing itself.

Based on the patented* *slant-aspect viewing* method, the sensitive infrared Servosafe® Hot Box Detective* diagonally "sweep scans" the entire trailing (or leading) surface of the passing journal box. Specifically designed to detect hot boxes, the Detective "feels" for hot boxes — and developing hot boxes — right at the source. The Servosafe system *consistently* catches dangerously overheated roller bearings as well as friction bearings . . . always sees the right target area . . . regardless of varying diameter of train wheels.

*Protected under one or more of the following U.S. Patent Nos.: 2,880,309; 2,963,575; 3,028,484; 3,095,171; 3,108,772; 3,108,773. Canadian Patent Nos.: 643,038; 643,091; 690,506; 690,907. Other U.S. and foreign patents pending.

SERVO

RAILROAD PRODUCTS DIVISION

SERVO CORPORATION OF AMERICA

111 New South Road · Hicksville, L. I., N. Y.

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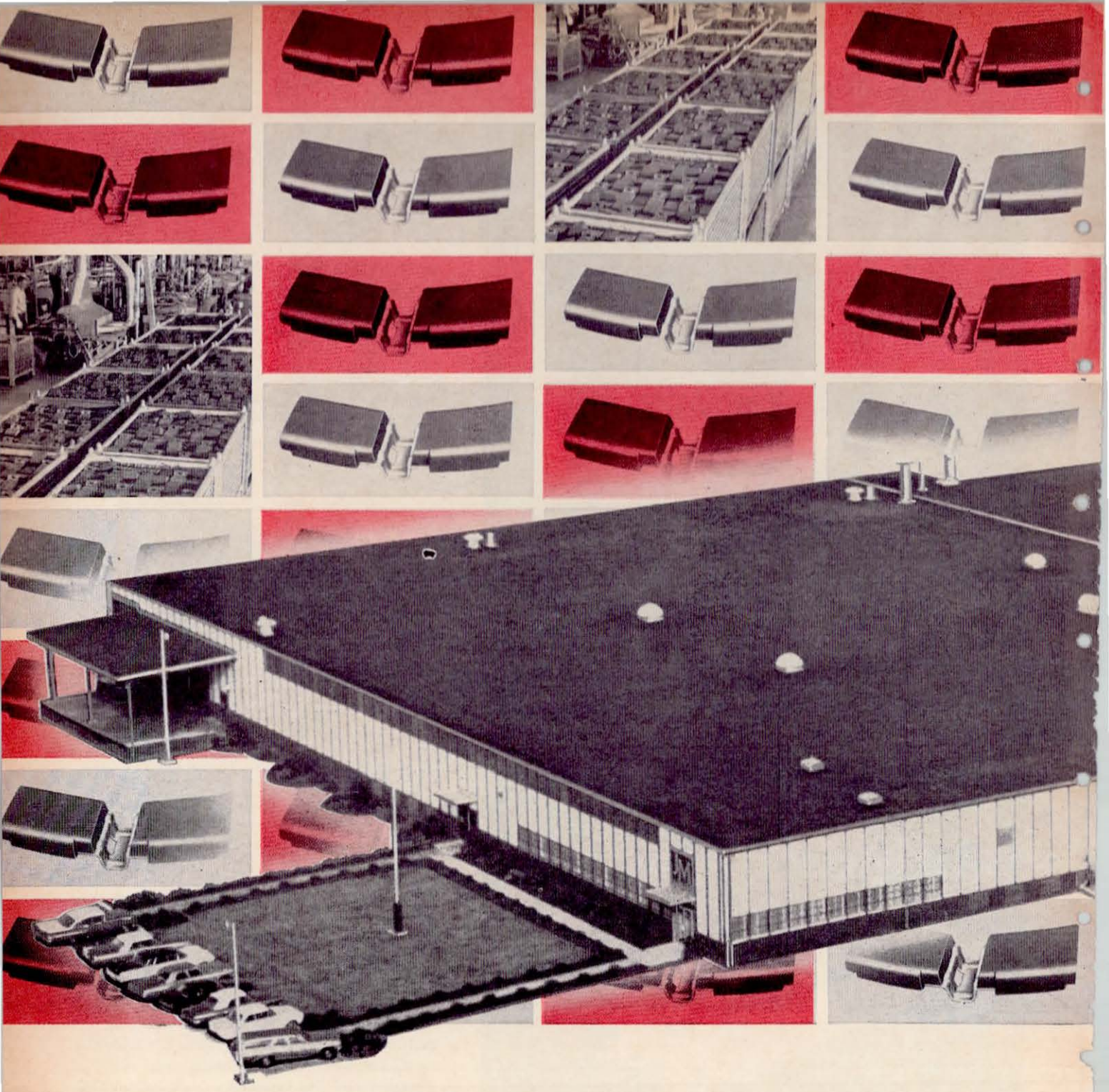
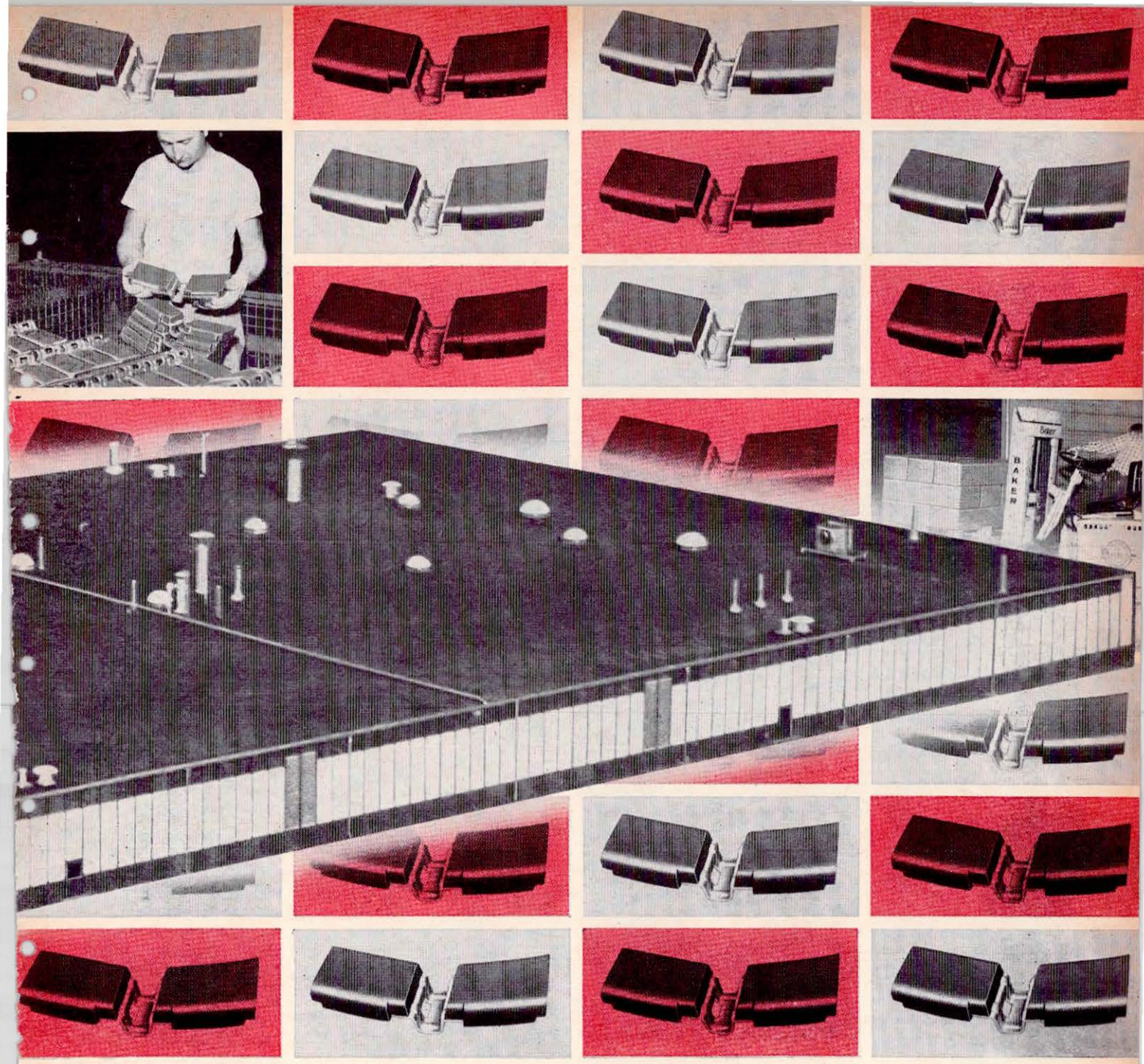


This new plant more than doubles the production of Cobra® Shoes



Cobra Brake Shoe applications have doubled each year for the last two years. Just like the population explosion, this spectacular increase has presented some problems. To meet this problem of high demand and to provide for future increases, a new processing plant was built in Laurinburg, North Carolina. This new plant supplements the present Midwestern facilities and produces all types of Cobra Brake Shoes.

Your local representative can show you how Cobra Shoes can improve braking performance and reduce equipment and operating costs—the reasons why Cobra Shoe applications have doubled.

RAILROAD FRICTION PRODUCTS CORPORATION
Wilmerding, Pennsylvania

The COBRA Shoe . . . a product of the combined research facilities of . . .
WESTINGHOUSE AIR BRAKE COMPANY
Specialists in Braking
JOHNS-MANVILLE CORPORATION
Specialists in Friction Materials

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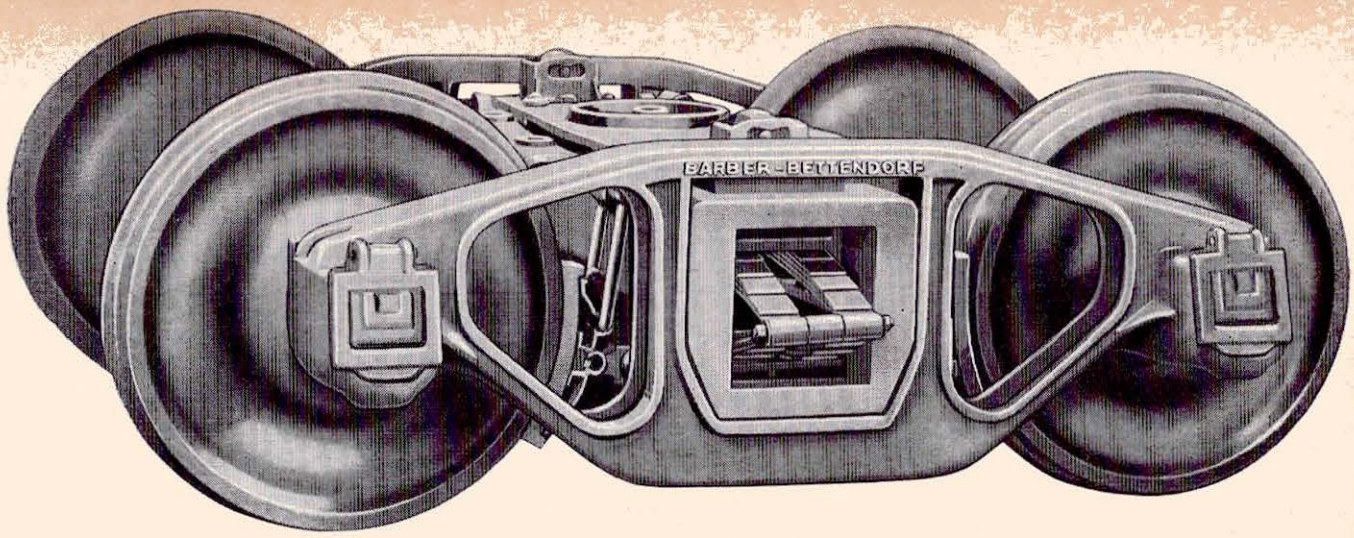
THE MILWAUKEE ROAD

WILLIAM J. QUINN, PRESIDENT
Chicago, Milwaukee, St. Paul and Pacific Railroad Co.

"I am very favorably impressed by the timely and effective coverage Railway Age gives to railroad subjects, and have a high regard for this magazine's usefulness to our industry."

William J. Quinn



BARBER-BETTENDORF

THE FULL FLOATING RIDE,

***SWING MOTION* CABOOSE TRUCK.**

– RUGGED BUT SMOOTH, EASY

TO INSTALL, LONG LIFE,

MINIMUM MAINTENANCE.

EXPERIENCE
RESEARCH
RESULTS

BARBER

"Talk to the Man From Barber"

BARBER Standard CAR TRUCK COMPANY

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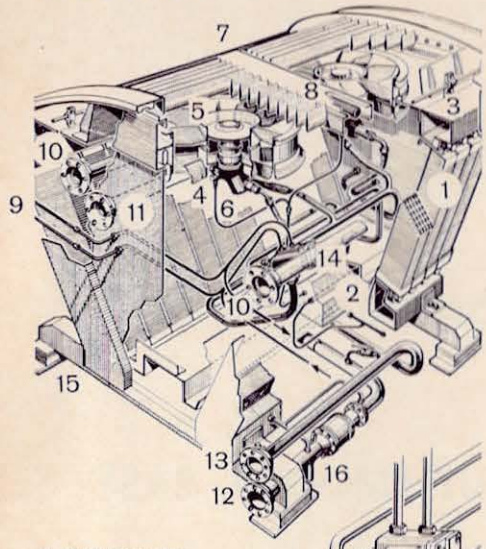
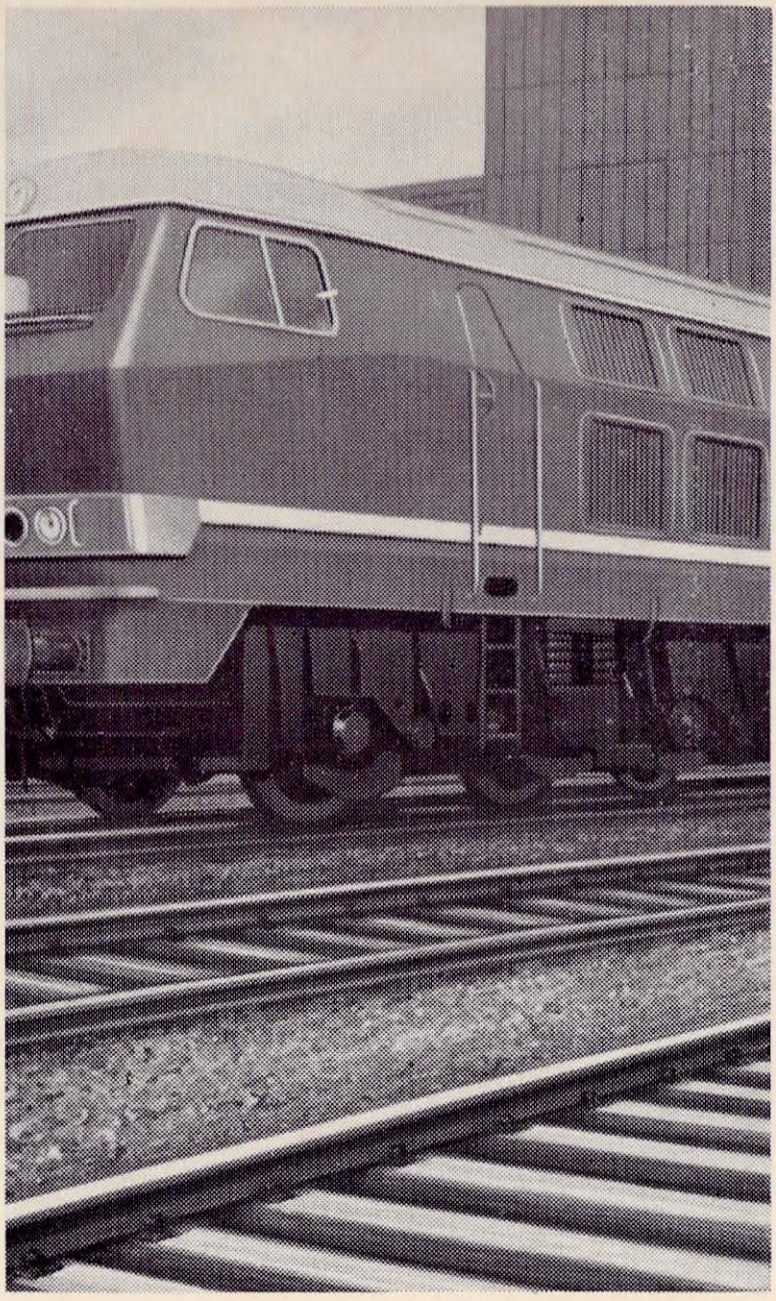
BEHR

Cooling Units with Hydrostatic Fan Drive



1 Radiator section
2 Lower water tank
3 Upper water tank
4 Fan wheel
5 Rotor
6 Hydrostatic Fan Motor
7 Air outlet louver
8 Control cylinder for 7
9 Oil delivery lines to lateral air intake louvers
10 Coolant inlet main circuit
11 Coolant inlet secondary circuit
12 Coolant outlet main circuit
13 Coolant outlet secondary circuit
14 Fan controller
15 Radiator support with elastic suspension
16 Check valve



Sixty Years of Achievement

Back in 1905, Julius Friedrich Behr founded the "Süddeutsche Kühlerfabrik" in Stuttgart-Feuerbach, Germany. The company bearing his name has been serving the automotive industries for 60 years. Behr's perseverance in promoting technological advancement in the field of automotive cooling, heating and ventilation has won his company world-wide repute and made it rise to its present importance.

SÜDDEUTSCHE KÜHLERFABRIK JULIUS FR. BEHR 7 STUTTGART-FEUERBACH MAUSERSTR. 5

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REMOVE THE FOOT-PEDAL, APPLY THE ALERTOR (THE SAFE DEAD MAN CONTROL) TO EXISTING EQUIPMENT AND YOU STOP POSSIBLE CONTACT ACCIDENTS. THE ALERTOR INSURES A CONSCIOUS RESPONSE CYCLE. IT CANNOT BE CIRCUMVENTED BY ANY ARTIFICIAL DISTRACTION. IT INSURES THAT THE ENGINEER HIMSELF IS ACTIVELY ALERT, AND THAT HE CAN'T FOOL THE ALERTOR.

VAPOR ELECTRONIC ALERTNESS CONTROL
BE ALERTOR® SAFE
THE SAFE DEAD MAN CONTROL

ASK FOR BULLETIN NO. 4094-A

VAPOR®

VAPOR CORPORATION
Railway Exchange Building
Chicago, Illinois 60604
Offices in Principal Cities

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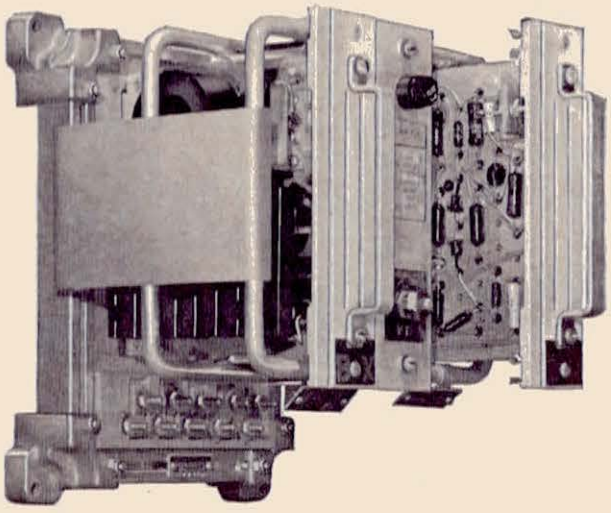
If after one million road miles, this isn't still the best voltage regulator in service...



just plug in a new component card and it will be.

That's how easy it is to eliminate costly down time or make modernization improvements with General Electric's 17FH20B Voltage Regulator. And that's not all. G.E.'s card-mounted static design, featuring silicon-controlled rectifiers, gives you built-in protection against voltage surges and spikes.

And, one basic design for a wide variety of auxiliary generators simplifies railroad stocking and maintenance. For flexibility, an automatic armature current limitation is available by simply adding a resistive shunt for the current you need, protecting your locomotive batteries and the auxiliary generator.

Want to hear more? Ask your G-E Renewal Parts Sales and Application Engineer for brochure GEA-7748A. Call him in *Atlanta*—876-2451 (404); *Chicago*—663-4141 (312); *Cleveland*—361-4464 (216); *Erie*—455-5466 (814); *New York*—751-1311 (212); *Philadelphia*—568-1800 (215); *Pittsburgh*—281-6400 (412); *San Francisco*—434-2211 (415); or *St. Louis*—436-4343 (314). 121-22

GENERAL ELECTRIC

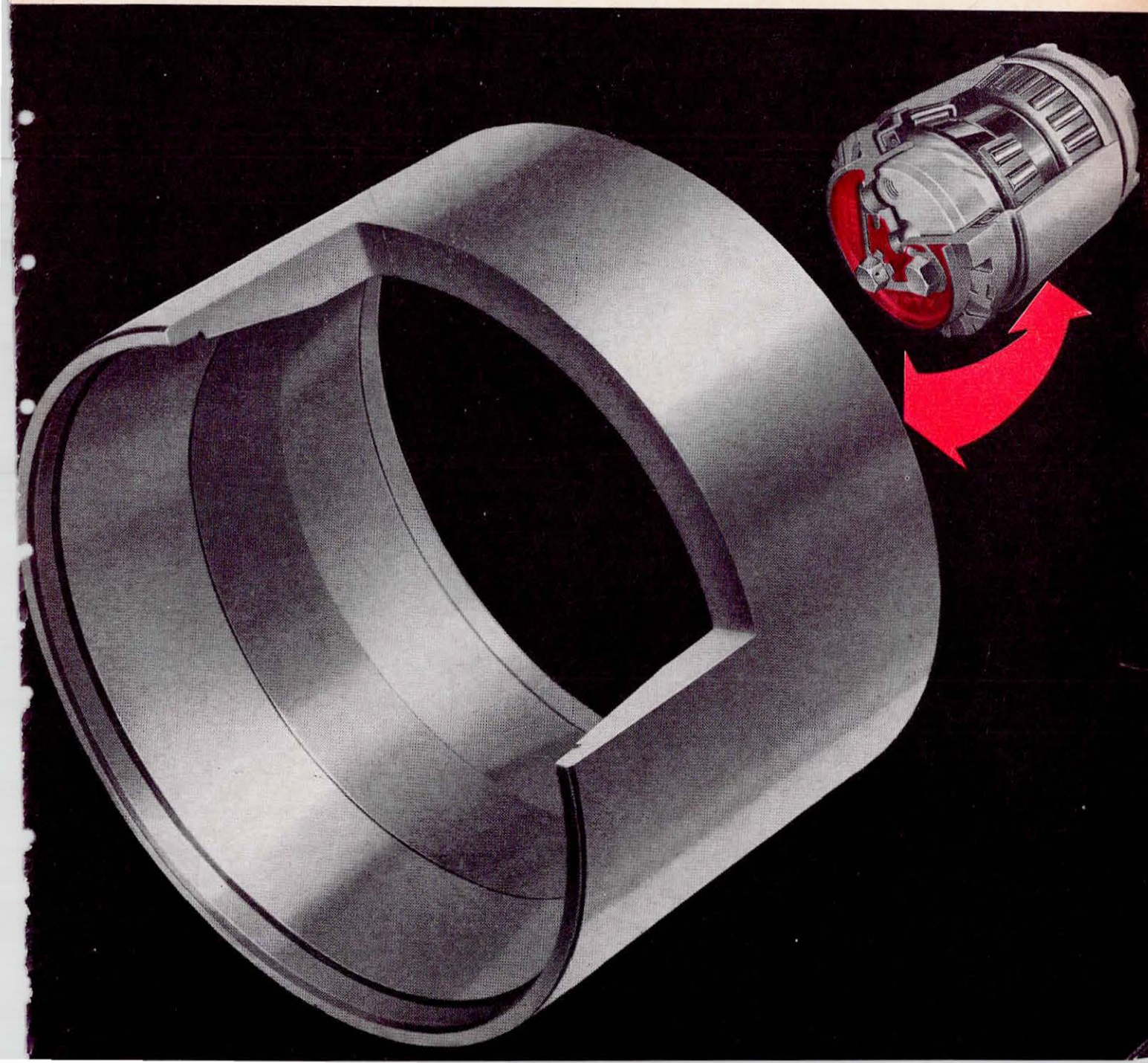
Circle 19 on reader service card

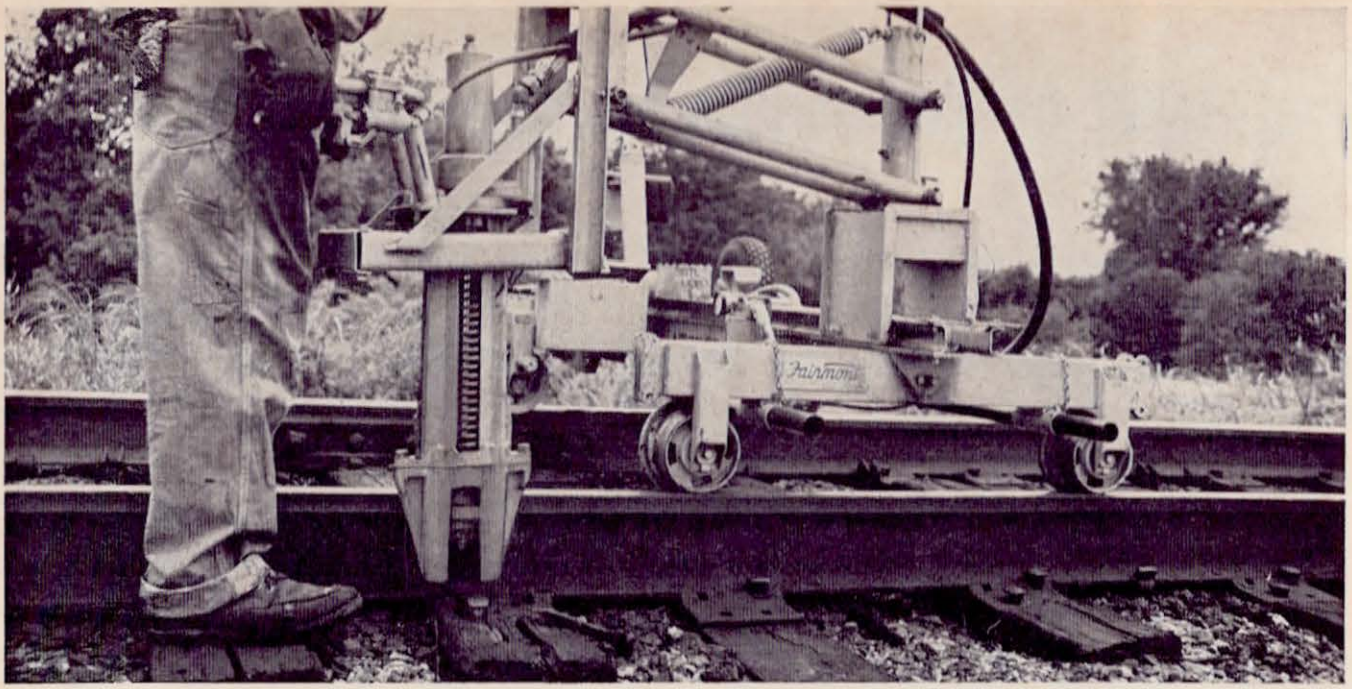
Hyatt taper freight bearings are finer feature for feature!

Integral housings and bearing outer races, for example, are manufactured from vacuum degassed steel — ultrasonically inspected for subsurface defects which might affect bearing life. Scrupulous care governs material selection. Modern machining and grinding techniques insure exacting control of angular and linear dimensions and provide concentric roller pathways. As an added safeguard, races are phosphate coated for rust protection. For long trouble-free life, specify Hyatt taper freight bearings!

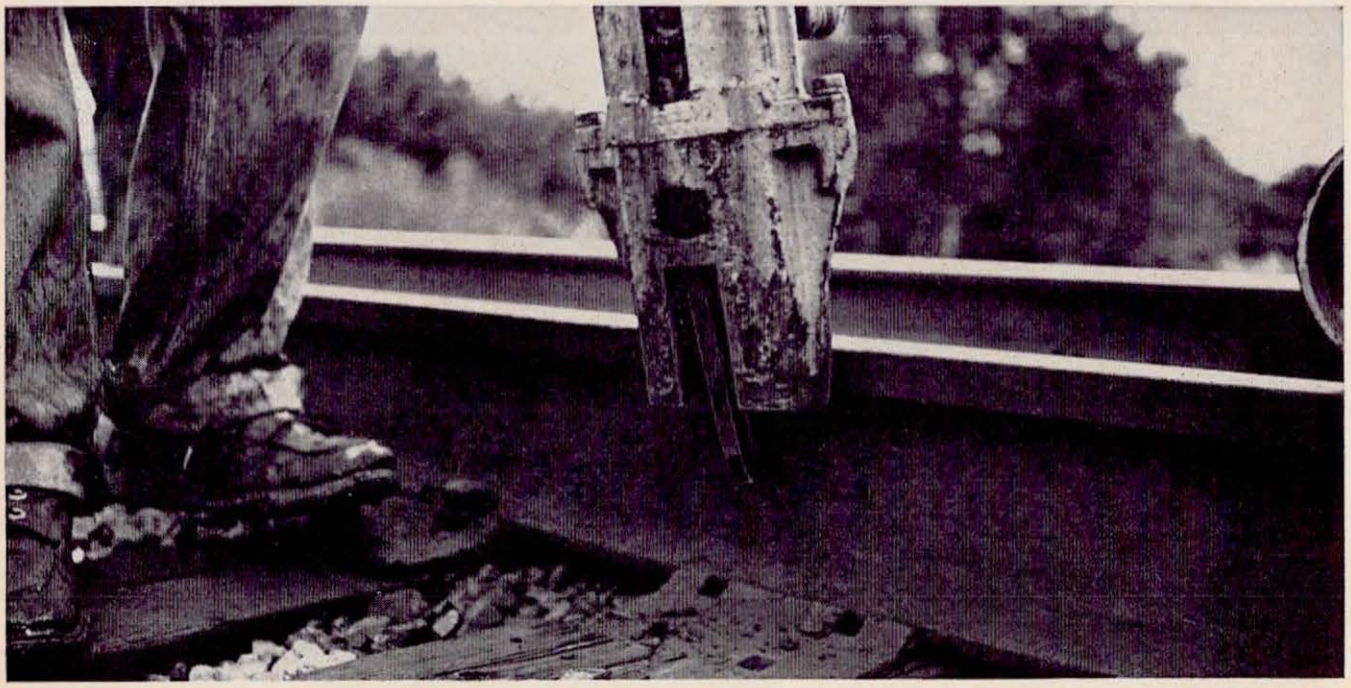
NDH NEW DEPARTURE · HYATT BEARINGS

DIVISION OF GENERAL MOTORS CORPORATION · HARRISON, NEW JERSEY





Extra power pulls the "throat cuts",



extra speed the "easy-to-remove" spikes!

Fairmont's new W84-E HYDRAULIC SPIKE PULLER has built-in features that save time, trouble on the job . . . • **Hydraulic circuit** provides high-pressure power for tough-to-pull spikes, more speed for easy ones. • **Variable volume pump** automatically modulates usable power so it's tailored to the job. • **Movable pulling tower** pulls spikes from either rail. • **Setoff wheels** can be positioned on field side of double tracks. And new W84 is lighter, so setoff's easier. Unique Fairmont W84 Spike Puller features safe, fast, *one-man* operation, simplified track maintenance!

RPI MEMBER

Fairmont

FAIRMONT RAILWAY MOTORS, INC., FAIRMONT, MINN.

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Circle 21 on reader service card →

Some economics for railroad men on the high costs of not using aluminum cars

Get the facts from Reynolds Aluminum. Turn the page.

Operating costs... maintenance... scrap value...

How these three factors make aluminum cars better investments than steel cars for hauling coal and other heavy bulk commodities:

An aluminum body gondola car with a cargo capacity of 109 tons costs about $4,500 more than a comparable steel car—with a 100-ton capacity.

This added nine tons of capacity by itself may justify the extra cost of an aluminum car; and under certain conditions, aluminum cars not only justify their first cost, but also give their owners additional long-term financial benefits that steel cars cannot match.

Where aluminum cars are at their best

In the past six years, Reynolds has helped to design and has supplied the aluminum for over 2,900 aluminum body railroad cars—more than any other aluminum producer. Reynolds economists, working with railroads and car-owning shippers, have analyzed the performance of these cars. And they find that aluminum open hopper and gondola cars offer the greatest profits to their owners when:

1. they haul heavy bulk commodities in assigned or captive service . . . or
2. when they're in *high utilization* service . . . or
3. when their cargoes could damage or be contaminated by steel.

One major railroad, for example, uses its aluminum gondolas most successfully in a unitized train hauling coal for a utility customer. The cars make a daily run between the coal mine and a steam generating plant.

To illustrate the operating cost savings that these cars provide, assume a hypothetical case similar to this utility coal run. Assume the utility plant needs 1,700,000 tons per year. The haul is 325 miles one way, and the train makes three round trips per week.

A 100-car unitized aluminum-car train would meet these requirements. With the smaller-capacity steel gondolas, the train would need 109 cars to carry the same amount of coal.

Less ton-mileage, lower operating costs

Because it is heavier, the steel-car train would travel more ton-miles per year than the aluminum-car train. Specifically, in this case, the steel-car train would record 900,800,000 ton-miles per year against 780,800,000 ton-miles for the aluminum train.

Ton-mileage, of course, is directly related to operating costs. With less ton-mileage to haul a given load, an aluminum car will save on train fuel, locomotive maintenance, locomotive lubrication, and on maintenance of way.

Using a conservative figure of $.768 per thousand ton-miles for these operating costs, the aluminum train in

the example would cost $599,700 per year to operate—vs. $691,800 per year for the steel-car train. That's an annual savings of $92,100 per year in "hard core" operating costs for the 100-car aluminum train.

No protective coatings needed

Low maintenance is one of the most important advantages aluminum cars give their owners. Aluminum won't rust, so the cars need no protective painting. Aluminum resists corrosion from many materials that damage other metals, so coatings, careful cleaning and frequent replacements are unnecessary.

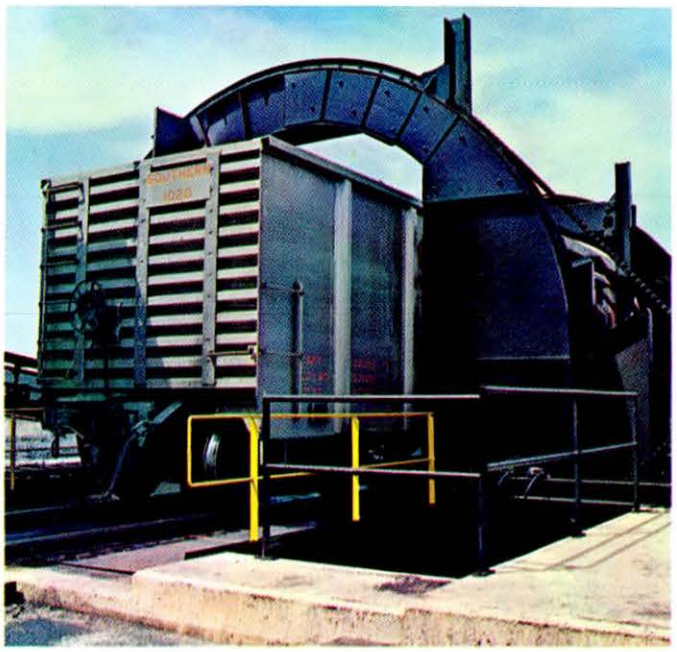
However, you don't have to consider these costs in order to prove that aluminum cars cut maintenance. Over their service life the lighter weight aluminum cars will show substantial savings by reducing wear on running gear.

Although service records for aluminum cars over relatively long periods are limited, several aluminum-car trains have rolled up long mileages in a short time. One train in coal service about five years, has covered as many ton-miles in its high utilization service as the ordinary coal car covers in 30 years or more. Its ton-mileage record is about seven times the national average.

How costs compare

With this background, Reynolds economists have estimated comparable fleet car maintenance costs for coal cars over a 20 year period as follows:

	Aluminum Cars	Steel Cars
Total maintenance at 20 years	$23,184	$27,484



The major saving with aluminum is due to the fact that the average steel car body must be replaced at least once during a 20 year period, while experience based on ton-mile service indicates this is not necessary for aluminum cars. Aluminum coal mine cars also proved this point with more than 18 years of actual service.

When these maintenance costs are figured on a fleet basis, aluminum cars show a marked advantage.

In the example mentioned earlier, the maintenance for the 100-car aluminum train would be $23,184 times 100, or $2,318,400 for 20 years. For the 109-car steel-car train, the cost would be $27,484 times 109 or $2,995,756 in the same time.

Big returns from scrap

Another major financial factor to be considered with aluminum cars is scrap value. At the end of its economic life, a typical aluminum car will yield about 15,000 lbs. of aluminum scrap. A conservative estimate of its net value would be about $2,600—compared to a similar steel car scrap yield of about $840.

More details on equipment made with Reynolds Aluminum . . . see next page.

The figures on the previous pages show how aluminum open hoppers and gondolas save money for their owners; other types of aluminum cars offer benefits like these, too. Covered hopper and tank cars also cost less to operate and maintain when they're made with aluminum, and their scrap recovery value gives them yet another advantage over steel cars.

Aluminum's light weight, strength, and corrosion-resistance pay important dividends in car components and special freight equipment, as well as in rolling stock . . . as proven daily by aluminum car doors, crossmembers, and bulkheads. In fact, the case for aluminum cars and equipment is a matter of daily record, in cars of all types, hauling a variety of cargoes on railroads all across the country.

Let a Reynolds railroad specialist show you how aluminum cars will give you long-term savings that no other equipment can match. Contact your local Reynolds office for details, or write *Reynolds Metals Company, P.O. Box 2346-TX, Richmond, Virginia 23218.*

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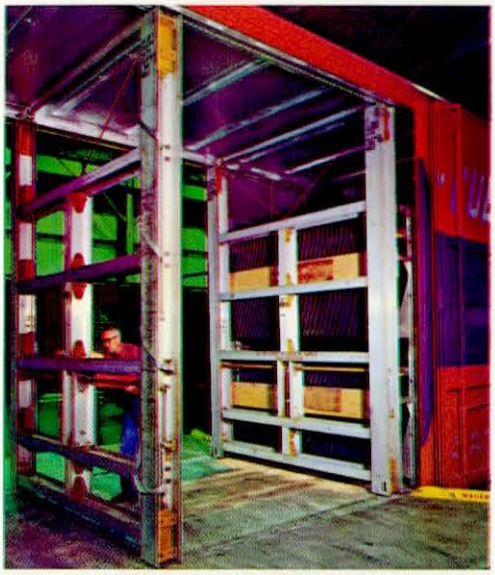
REYNOLDS
where new ideas take shape in
ALUMINUM

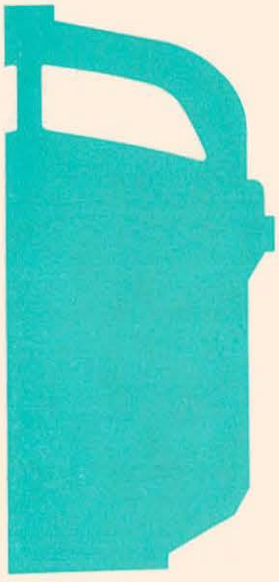
Watch **"The Red Skelton Hour,"** Tuesdays, CBS-TV



Strong, lightweight bulkheads of Reynolds Aluminum protect bulky freight against damage.

Covered hopper cars made with Reynolds Aluminum, in daily service on major railroads.

Tough Reynolds Aluminum helps tank cars serve longer with corrosive cargoes.



Railroad boom is here to stay

The new year looks like a period of continuing gains, which will last through the decade.

When the decade of the 1960s began, the economic prophets couldn't be restrained. The "sizzling sixties" had arrived, they proclaimed.

To an extent, they were right. But for the railroad industry, the '60s began pretty coldly, and it's taken five years for the railroads to really get the fire going. Only now is that satisfying sizzle being heard.

What's ahead, at the mid-point of the decade? More sizzle, unless all present indicators are 'way off.

● **The direction is up.** Railroads, right now, are hot. And they'll get hotter—if steady rises on the performance gauges continue as expected:

—The absolute indicators now are almost all on the up-side. Revenue carloadings increased in 1965 for the fourth straight year. Revenue ton-miles hit a peacetime high, right around the 700-billion mark—and the ton-mile figure also represented a fourth-straight annual gain. Piggyback, which has never taken a backward step, topped one million carloadings for the first time. And while operating expenses continued to stage a close chase with operating revenues, net income still edged up to the highest level since 1956.

—Efficiency indicators show similar improvement. Average train weight and train speed climbed again in '65. The result was another new high in the critical net-ton-miles-per-train-hour measurement.

—Increased capital spending is both a cause and an effect of the improving traffic-efficiency-financial situation. And capital spending in '65 set a record high for the second year in a row.

The new year looks like a period of continuing gains, across the board. Equally important, the second half of the "sizzling sixties" decade now looks as if it will carry through on the trend. There's no downturn in sight.

● **The money's there.** There can be many measures of the industry's health—but one of the best may be the confidence investors show. And the investors appear confident. Rail stock averages hit a new high in '65—and the investment community has displayed an increasing interest in providing funds for the improvements railroads are making.

As booms go, the one in railroads appears to be well-founded. First, the slide in the industry's share of total intercity freight business has ended and an upturn is in the making. Second, capital expenditures of more than $3.5 billion in the past three years alone have put railroads in fighting trim to seize an increasing share of what will be an increasing market through 1970.

Right now, the industry accounts for about 43% of the intercity business, on a ton-mile basis. By one estimate, the market will climb to the 2-trillion-ton-miles mark in 1970 (compared with a total of about 1,620 billion in 1965). If railroads only held their own, at 43%, this would mean a ton-mile increase from about 700 billion in '65 to 860 billion. And a

The pace of improvements will be maintained

slight increase in the share—by just 2%—would boost the ton-mile total to 900 billion. Some experts think there's a chance the industry can do even better (and thus simplify the mathematics). They don't think 50%—1 trillion ton-miles—is impossible, given the railroad resurgence of the early '60s and assuming like performance in the late '60s.

● **'In the past. . . .'** One of the men who is taking a close look at industry prospects is A. D. Kerr, of Security Research Bureau—and Kerr finds ample reason for confidence for tomorrow.

He concedes that "too often in the past have railroad men been enamored with the running of the railroad—with the niceties of engineering and operation of trains—all to the exclusion of competition and the needs of the shipper." Also in the past, Kerr charges, "the industry in general overlooked the most important aspect of its business—a thorough study of traffic and markets—and left in the hands of unimaginative men the control of the mystical rate structure. An aura was built around the rate structure. It was inviolate, and should traffic fall off, the only recourse was, quite naturally, to raise rates."

Now, however, things are changing. Railroads are keying on that which is the goal of any business enterprise—making a profit. Kerr defines profit strategy as a "total commitment to a program designed to increase traffic volume and to translate this growth into increased net earnings." And, he believes, "the industry, selectively, is well along in implementing this type of program."

● **Better days—why?** Prospects for improved earnings, Kerr thinks, are now fairly bright, for four principal reasons: Increased competitiveness displayed by the railroads; their reduced employment and their efforts to hold the line on labor costs; the impact, even selectively, of mergers; and finally, the trends showing improvement in the ratio of net to gross.

Kerr sums it up this way: "Railroads are a mass-production industry, and while lower revenues from incentive rates will cause gross revenues to rise more slowly than ton-miles, net income will rise more rapidly. This is because increasingly heavier carloads plus more and longer trains require a relatively smaller increase in transportation costs—as opposed to trucks, which are a unit industry. Railroad costs have been, and will continue to be, pared down. Thus, the railroad industry may be expected to carry a larger percentage of gross through to net."

The forecast seems to be a relatively safe one. By Kerr's figures, between 1961 and 1965 (estimated), ton-miles were up 23%, while gross revenues climbed by only 10%—but net income before federal income taxes posted a 42% gain and after-tax net was up 92%.

● **Up and up.** All this points to a continued high level of railroad capital spending—perhaps (or rather, very likely) in the $1.5-billion-and-up range for the rest of the decade at least. Increased spending plans reported by a number of roads in just the past three months make it pretty clear that the $1.61-billion capital-spending total of 1965 will be topped in '66. After that, there could be a certain leveling-off tendency—but there are no signs of any slippage.

More fixed-facility spending

Another trend that may be showing up over the next few years is an increasing emphasis on spending for fixed facilities. Expenditures in both 1964 and 1965 ran at a rate of about 80% for equipment and 20% for plant. But massive motive-power and freight-car programs of the 1964-66 period are getting a number of roads caught up with immediate needs—and roadway and structures improvements may well get increasing attention while the next wave of equipment improvements is building up.

● **Why keep spending?** Between now and 1970, the industry has every incentive to maintain its pace of improvement. What has been done thus far—combined with imaginative work in marketing and in that area known as cybernetics—shows that railroads are destined for better days. Further, government shows signs of turning over a new-year new leaf on transportation. The present undersecretary of commerce for transportation, Alan S. Boyd, may have just airline regulation in his background—but, by his statements thus far in his new job, he has the goal of sensible and intelligent treatment of all modes in his present and future.

Finally, lest it be forgotten: There's a strong competitive element in the railroads' need to keep the pressure on, in all fields of research and development and equipment-and-plant improvement. By the start of the 1970s, the Interstate Highway System will be completed, or nearly so. Through the next seven years, at least, the industry may also see stepped-up efforts to put extra stuffing into the so-called waterways pork barrel—as efforts during the past session of Congress (on behalf of such projects as the Trinity River canal in Texas and the Ohio River-Lake Erie canal) rather clearly indicated.

● **The railroads aim high.** Based on current reports of '66 capital spending plans, hardly a railroad alive is ignoring either the challenge or the opportunity involved in the stretch run of the 1960s. And, while some major roads won't quite match '65 programs in '66, they won't miss by much.

Southern Pacific, for example, topped all previous highs last year, with acquisition of motive power, freight cars and highway equipment costing more than $154 million. This year, the total will be down somewhat—with acquisition of fewer units of rolling stock and highway equipment—but SP will still spend more than $125 million for equipment and will boost its locomotive program from 158 units last year to 172 in '66.

Santa Fe also may be down in total spending just a bit. Union Pacific should be up: The road recently doubled its locomotive program from 25 to 50 units and now plans to add about 7,000 freight cars.

In the East and Southeast, over-all spending totals may well be up. Pennsylvania and New York Central are both coming off high-spending years in '65, but as NYC points out, its program for 1966—down somewhat—will still be second only to 1965 in the past decade.

● **'No slackening. . . .'** Norfolk & Western, meanwhile, has programmed expenditures at $130 million. And Southern, noting that '66 totals may not hit the $135 million reached last year, still promises that "there will be not slackening of emphasis on satisfying customer needs. . . ."

Without much doubt, however, the No. 1 spender in the eastern half of the country will be the Chesapeake & Ohio-Baltimore & Ohio combine. The two won't be up by 100%—but they won't fall short by too much. After spending a record $190 million in 1964, C&O-B&O dropped to half that amount last year. But in '66, they're 'way up again—to about $175 million.

In all, at least eight roads can be expected to hold membership in the $100-million-and-up group in 1966—

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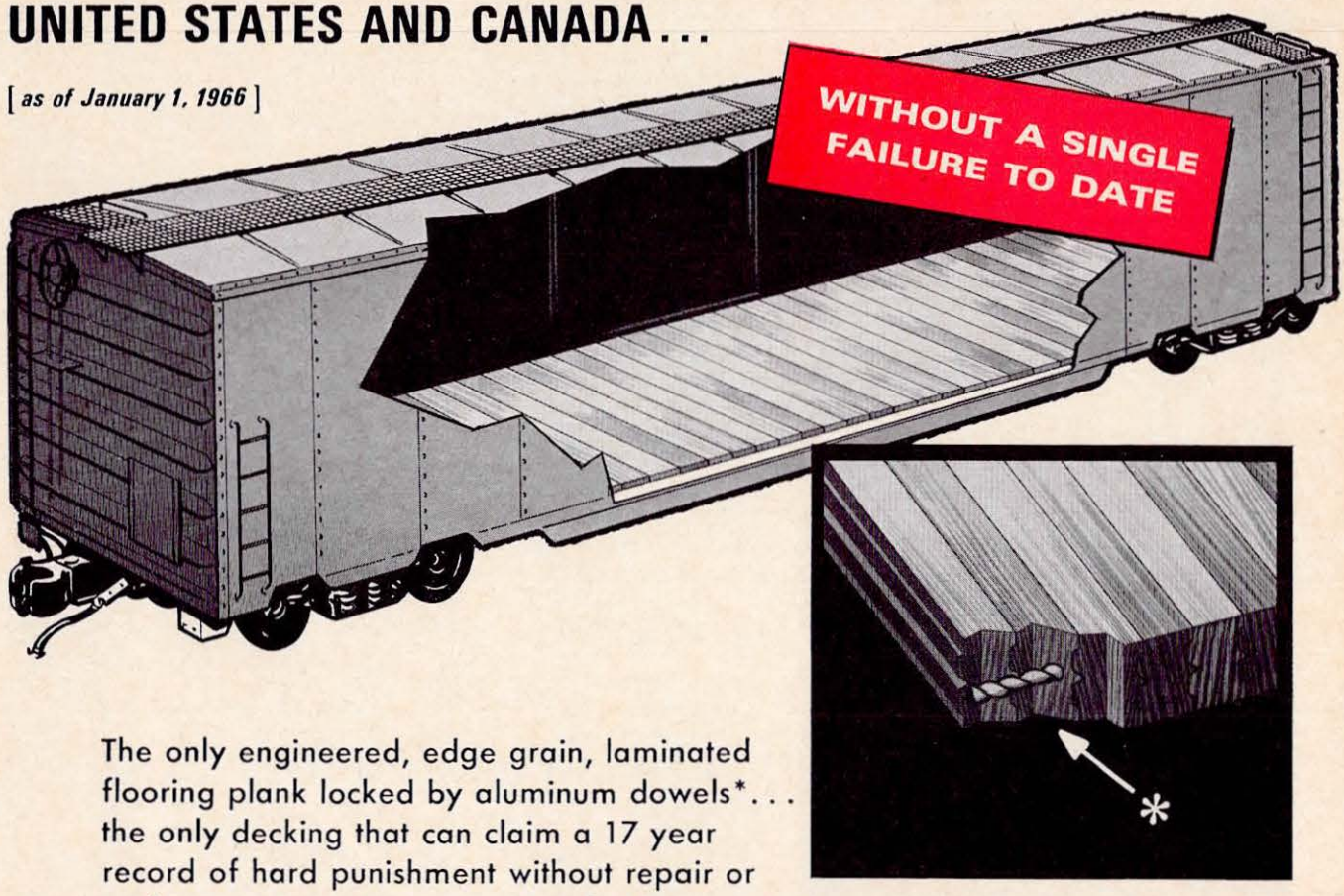

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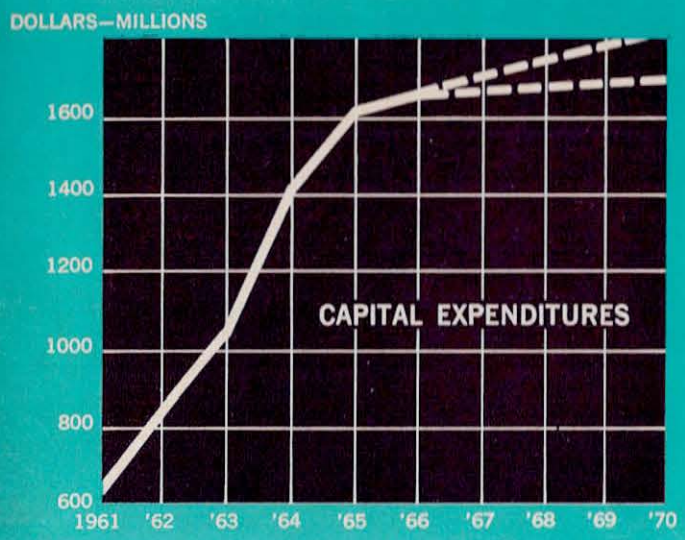
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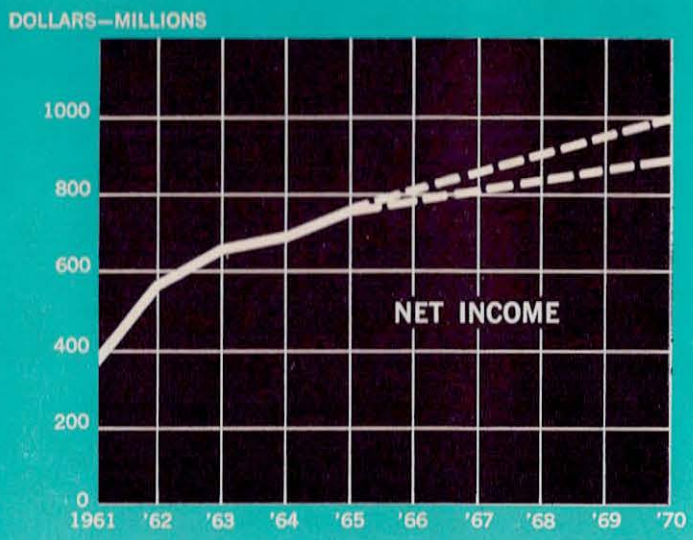
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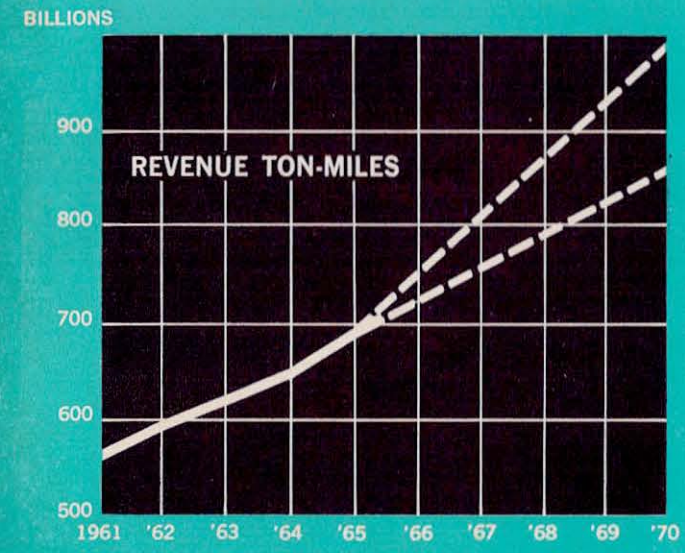
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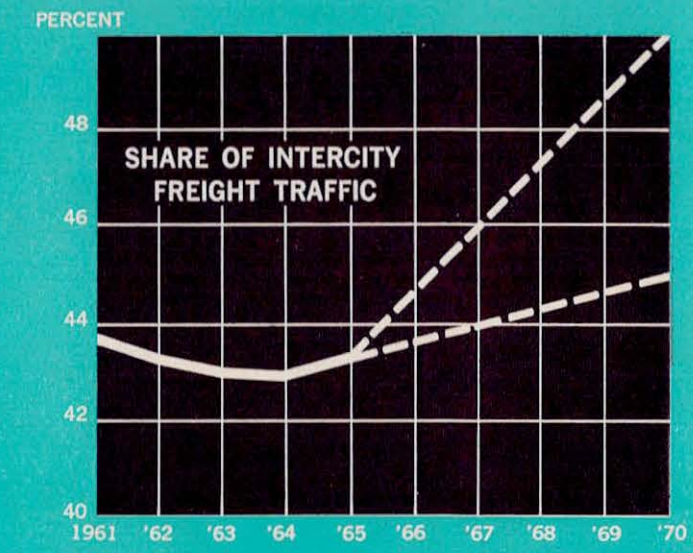
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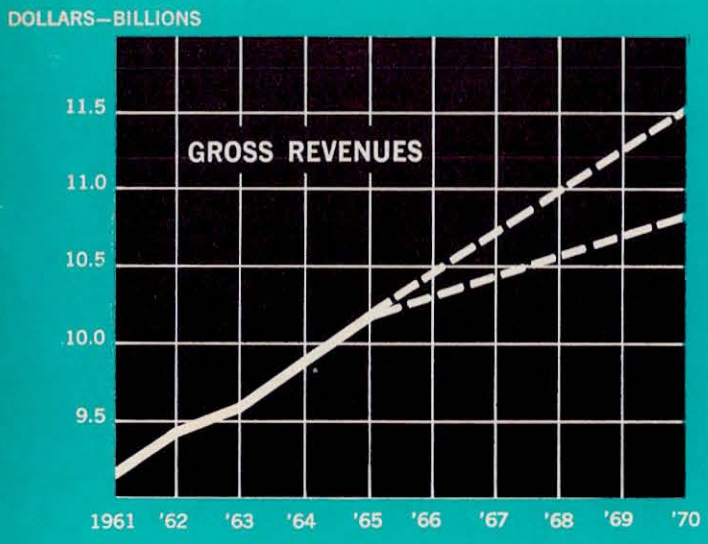
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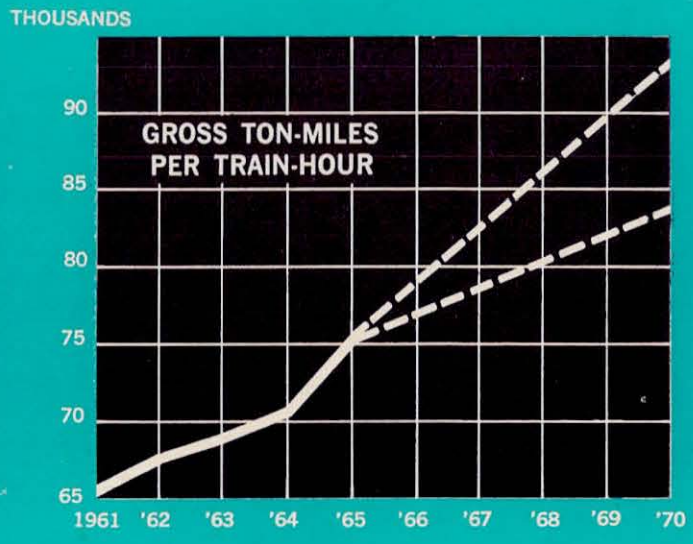
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1961 '62 '63 '64 '65 '66 '67 '68 '69 '70

and together they'll account for $1 billion or more in capital expenditures.

Under $100 million, a number of roads are forecasting spending increases. Illinois Central, for example, will be up from $30.5 million in 1965 to $38 million this year. Northern Pacific, coming off an all-time high for earnings in '65, will spend $39.5 million for capital improvements in '66, up 21% from last year.

Louisville & Nashville plans to spend more than $64 million this year (including almost $44.6 million for freight cars). Missouri Pacific, which hit a record in '65 of close to $70 million, will follow up with an expenditure now programmed at more than $60 million in '66. And Burlington has a $35-million program set for the new year.

● **The suppliers expand.** All in all, the 1964-65-66 record-forecast seems to be a one-good-year-leads-to-another sort of thing. Railroads see it—and so do suppliers. Gunderson Brothers Engineering opens a new plant in the East; Transco puts a new facility on the Pacific Coast. Pullman-Standard goes into a $4.5-million improvement program which includes a new research-and-development center; Evans Products expands, and then has to expand again. So it goes, throughout the car-building business—and the locomotive builders are keeping pace, not so much now with new facilities as with new and higher-horsepower offerings. And the people who build the construction and M/W equipment so dear to the hearts of railroad engineers? They're going to benefit, too—as increasing percentages of budgets go into roadway-and-structures projects.

● **What momentum means.** So that's 1966—the start of the second half of the '60s, and the time when the railroad industry's sizzle may really come through.

There are, of course, imponderables. There are the usual ones, such as government's attitude, the state of the economy, world conditions of peace or quasi-peace or whatever. And this year again, there's the labor question—with the brotherhoods poised for a big push on economic issues.

But the industry now has momentum. And if that momentum can be maintained, if government adopts a realistic attitude toward transportation policy, if the economy holds its strength as predicted, if labor negotiations end in realistic settlements, then 1966 could be a year to remember. And it could be the year when railroad men stop pinching themselves in a kind of disbelief that better days are possible. Better days are here—and, as the old saying goes, the best can be yet to come. ■

RAILROADING

AFTER HOURS WITH JIM LYNE

LYNE

WHO'S THE BIGGEST?—My colleague, John Mitros, unearthed a couple of intriguing statistics during a recent visit in Minneapolis with Jim Springrose, Cargill's assistant vice president and general manager of transportation.

It seems that Mr. Springrose recently had an audit made of Cargill's carload traffic in the 12 months between Nov. 1, 1964, and Oct. 31, 1965. He established that his company handled 302,109 cars, in and out. Cargill paid the railroads $96,163,449.78 in charges.

In volume, if not dollars, this must put Cargill very near the top of the railroad industry's best customers.

COMMUNICATING—Few things are more important to good managers than effective intra-company communications—upward as well as downward. Soo Line has an interesting project going called "Milepost 5" that seems to be doing a good job for a very few dollars.

In December Soo Line's president, Leonard Murray, at the railroad's annual staff meeting in Minneapolis, gave a presentation about the Soo Line's past and prospects. Using slides of Soo Line's 1961-1965 performance (for such indexes as operating income, net income, profit margin, operating ratio, maintenance ratio, capital expenditures), he described what has happened to Soo Line in the five years since merger. Then he turned his attention to the next five years. Using graphs and charts representing the best available projections, he filled in his staff on what the outlook is and what all Soo Liners must do if the road's expectations are to be realized.

The show went over big. Wally Abbey, Soo Line's public relations director, had taped Mr. Murray's commentary. With that tape and a set of 40 slides, Soo Line put "Milepost 5" on the road. On Jan. 3, Soo officers and supervisors at Stevens Point, Wis., had dinner together and, in effect, a visit with the president. The next night supervisors in Duluth saw and heard Milepost 5. The series of meetings will terminate in Chicago and New York in February.

Cost? Aside from the staff work of preparing the graphs and charts, Mr. Abbey reports the cost of the slides and tape was less than $100. Even the tape recorder and slide projector (which Soo, like most railroads, already possessed) cost less than $300.

THE TRAINS WE RODE—Lucius Beebe and his associate, Charles Clegg, have outdone their earlier publications in a new railroad book entitled "The Trains We Rode," published by Howell-North, $15.

Like most of its predecessors, this is a compendium of fine photographs and extended captions. There are 801 illustrations in the 468 page book—a ratio that dictates a mighty low text content. The photos make up for it. They represent about the best collection of steam era photography we've seen, and they are handsomely reproduced.

NEW YORK LEARNS A LESSON—Whatever else it may have done, New York City's subway strike has clearly shown just how valuable rail transit can be to the city. Most vivid demonstration is the herculean job done by the Long Island, the New York Central, and other commuter railroads in handling overflow crowds of people who would normally ride to work by subway or bus. But some ingenious citizens are literally going 'round Robin Hood's barn to get to work by rail systems which they might never normally use. Some Long Islanders, for example, are said to be driving across Staten Island to Elizabeth, N.J., and taking Pennsylvania trains into mid-town Manhattan. At least one Westchester County resident is reported to be motoring over the Tappan Zee bridge, then south to Jersey City, and finally using Port Authority Trans-Hudson tubes into lower Manhattan.

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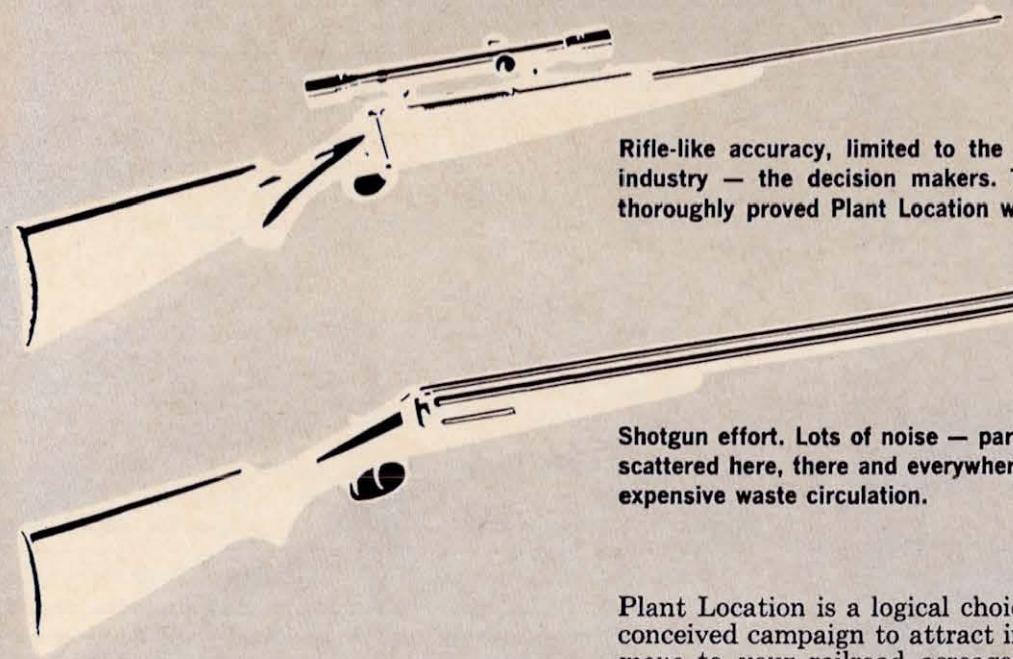

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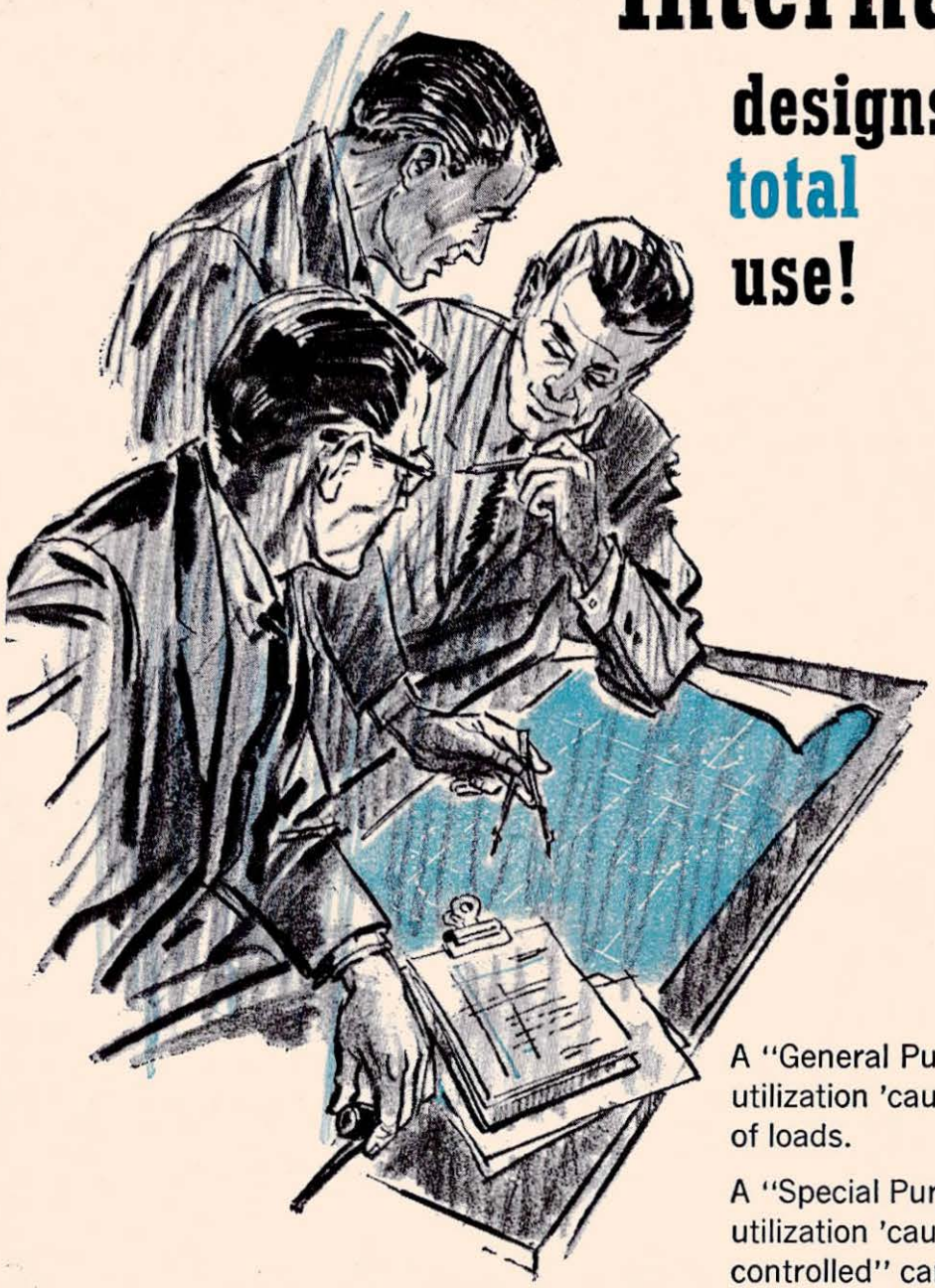

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Freight-car buying to set a brisk pace

Railway Car Institute chairman estimates that yearly average for new-car purchases will be approaching $1.5 billion by 1975.

BY F. N. HOUSER, ASSOCIATE EDITOR

HOUSER

Today's freight-car outlook? "Up" is the word. Up go car orders, up goes new-car production; up goes per-car capacity; up goes railroad profitability. And there is every indication that virtually all factors involved with the freight-car supply and market will continue on the up . . . not just through 1966, but for years to come.

With 1965 already in the record books as the best year in carbuilding history in terms of spending and the best in a decade in terms of units ordered, neither railroads nor carbuilders are looking—nor can afford to look—at this year's rosy prospects with any real complacency.

• **A technical lag.** C. J. Fitzpatrick, Chicago & North Western president, recently cautioned a group of railway mechanical engineers that he felt the industry has "lagged in technical developments in freight cars." Fitzpatrick cited component design and the varying approaches to high volumetric and high weight-carrying capacities as areas where there will have to be "thorough evaluations that will determine the size, design, character and versatility of the equipment to be built."

There is a possibility that the federal government could soon be playing an increasing role in determining what railroads will build what types of freight cars.

An amendment to the Interstate Commerce Act—probably due for early House action—would give the ICC power to regulate car supply. While the declining general-service car fleet sparked this Congressional activity, last year was significant because the total carrying capacity of the nation's freight cars did level off as growing numbers of high-capacity cars went into service.

The two problems associated with the railroads' freight car outlook are actually the result of a single development—the past decade's rapid transformation of the industry into a series of specialized, high-volume transportation operations. The two-fold result of this change has been a steady decline in general-service cars and uncertainty about just what types of equipment will be necessary to fit the industry competitively for the years ahead.

• **A 10-year peak.** While the 1965 car-order total of over 80,000 was the best since 1955's record 154,500, these totals are not really comparable. "I stay away from car totals because today's car bears little resemblance to the old workhorse of a decade ago." explains F. J. Schroeder, board chairman of the American Railway Car Institute.

"The old-type cars sold, on the average, for $7,500 back in 1955," Schroeder continues. "A decade later the price was $15,500—more than double the price of 1955. Right now the price is up to $16,400. And we calculate that the 'New Look' cars ten years hence will sell, on the average, for $27,100."

• **More than inflation.** While conceding that higher prices do represent some rise in labor and materials costs, Schroeder explains that the bigger price tag "is and will continue to be due mainly to the fact that railroads and shippers will be getting much bigger cars and such sophistications and refinements as cushion underframes and roller bearings." These cars will make possible greater productivity and utilization with lower maintenance costs.

Schroeder's preliminary appraisal is that railroads and private operators spent $1.1 billion for cars in 1965 and will up this by $50 million in 1966. "Estimates are that the yearly average should approach $1.5 billion by 1975," he adds. Carbuilders wound up 1964 with a $500-million backlog; ended 1965 with the backlog up to $750 million.

• **Each car costs more.** The steady rise in per-car investment for new equipment was spotlighted on April 1, 1965. The AAR multi-level per diem was expanded then with three new categories which provide compensation at a daily rate of $9 for cars costing $25,000 to $30,000; $10.18 for cars costing $30,000 to $35,000; and $12.18 for cars costing upwards of $35,000. Previously the classification had ranged from $2.16 for cars valued under $1,000, to $7.74 for all cars worth $20,000 or more.

The new categories were explained to a recent Congressional hearing by D. E. Smucker, Pennsylvania vice president: "In recognition of the fact that modern freight cars are becoming ever more costly as they are tailor-made for particular loading, equipped with shock-control devices, load-restraining and load-positioning equipment, capable of carrying heavier and heavier loads at higher and higher speeds, the railroads in all sections of the country with widely different traffic patterns have recently established additional per diem groups."

• **ICC and car supply.** Those Senate and House hearings at which Smucker testified found railroads divided into two camps over proposals for legislation which would give the ICC greater power to control car supply and ownership by regulating per diem. Amendment of Section 1 (14)a of the IC Act, claim proponents, would serve to expand what they term the "steadily declining general service car fleet." While Congressional action was not completed in the 1965 session, final action of the amendment will probably come this year.

(Continued on page 47)

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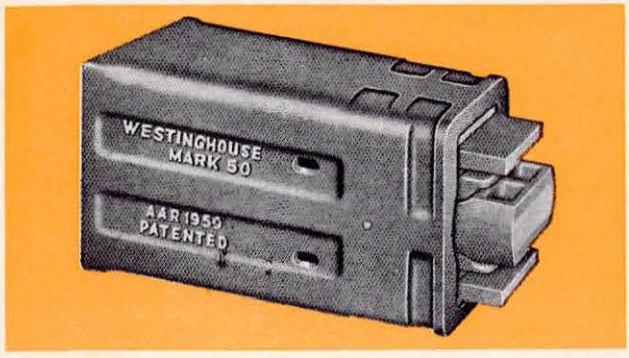

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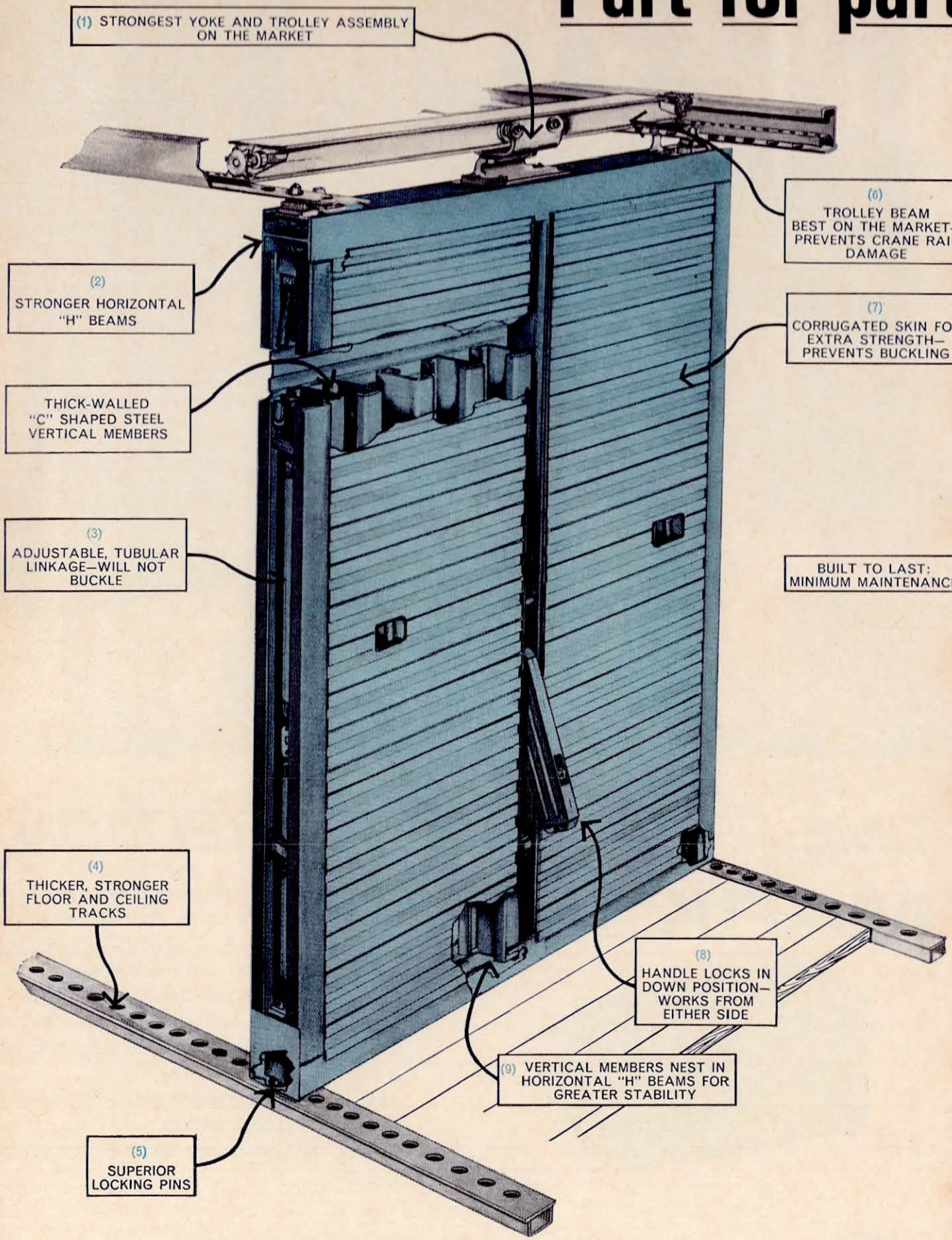
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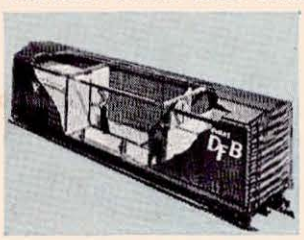
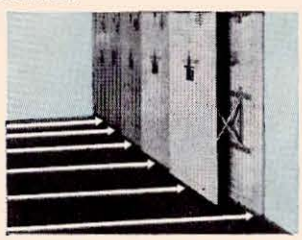
  Freight car and lading damage prevention equipment.
- **Automotive and Industrial Division**
  Freight car insulated panels, metal-faced plywood and other industrial products.
- **Railway Car Division**
  New freight cars, modernization and components.
- **Research and Development Division**
  Research and development in freight cars, components and equipment.
- **United States Railway Equipment Company**
  (a subsidiary of Evans Products Company)
  Freight car leasing and car construction.

THE MOST WIDELY USED COMBINATION



EVANS DF-B bulkhead braces lading securely to prevent damage in transit.



EVANS SIDEWALL FILLERS reduce car width, preventing side movement of lading.

evans

TRANSPORTATION EQUIPMENT GROUP

PLYMOUTH, MICH., CANADIAN REP., INTERNATIONAL EQUIP. CO., MONTREAL

Circle 25 on reader service card

High hopes for transit and Northeast Corridor

Passenger equipment prospects in 1966, aside from the demands for transit cars, are centered primarily about the Northeast Corridor experiments.

This is the year which will see orders placed that could go far in establishing the role of U.S. railroads in future interurban passenger transportation. Four electric m-u cars have already been ordered by the Department of Commerce for high-speed testing on the Pennsylvania. Bids are in at Commerce for fifty coaches and parlor cars for the regular Corridor service over the Pennsylvania. Gas-turbine cars have just been ordered for the New Haven.

Traditional carbuilders—Budd, Pullman-Standard and St. Louis Car—have all submitted proposals for new equipment along with turbine-oriented United Aircraft.

St. Louis Car, a division of General Steel Industries, is looking primarily to the market for transit and commuter equipment. Production has started in a new stainless-steel fabricating shop, a part of the major investment which has been made in "expanded and highly flexible carbuilding facilities." St. Louis can now work in stainless and low-alloy steels and in aluminum.

Pullman-Standard, says G. L. Green, vice president and general manager, will continue to be a major contender in the interurban passenger and rapid-transit fields. "P-S has submitted its designs to the Northeast Corridor project, and its research and engineering facilities are geared and ready to build the passenger equipment that will be needed."

Budd's W. L. Sheppard, Railway Division vice president and general manager, sees western and Florida railroads as the best prospects for long-haul passenger equipment, a demand "which will not compare with the transit and commuter market." Medium-distance day services could require single- and double-deck cars.

"The ability to attract passenger traffic back to the rails," continues Sheppard, "depends on application of plain truths as well as the development of new technological advances. The simple precepts of a clean and attractive car, together with courteous service, frequent schedules and on-time operation over smooth and quiet rights-of-way will always be important factors."

Sheppard sees a successful Northeast Corridor program being a two-step development:

—Immediate production of equipment with "marked environmental and performance improvements over present cars."

—Stimulation of new vehicle and right-of-way designs which could be introduced after 1975.

"Corridor-train designs should be a substantial improvement over several of the less-than-successful lightweight trains of a decade ago," Sheppard adds, "by reason of the more careful technical preparation and the emergence of environmental equipment and vehicle propulsions which were not then in existence."

Bull market for piggyback equipment will continue

With piggyback having just marked up its first million-carload year, railroads, lessors and trailer builders are looking for continued growth. Estimates are for a continued traffic expansion at about the 15% annual rate which has prevailed through piggyback's first decade. What will this mean in terms of orders for highway trailers and containers?

• **Outlook excellent.** After 1965, which apparently was the best ever in the over-all trailer industry, trailer and container builders are looking for railroad and piggyback lessors' orders to make up a significant part of what they expect to be another banner year. Great Dane Trailers looks for its best year ever, "due in large part to the greatly accelerated purchases of trailers by railroads and railroad leasing companies and the sudden large demand for marine containers," reports C. Hammond, president. Sales to these customers were up 55% in 1965 over 1964.

The trailer now being specified by railroads and railroad lessors "bears only superficial resemblance to the over-the-road trailer," explains Hammond. "The evolution has produced a unit for high-speed rail movements."

Fruehauf sees piggyback trailer equipment purchases up about 15%, matching the predicted traffic growth. "The use of containers is reaching a point where it becomes an important part of railroad transportation," says H. E. Foulkrod, Fruehauf's vice president—marketing. "In total units it nowhere nearly approaches the usual piggyback equipment, but there is increasing evidence that more companies will find containers desirable."

• **Leasing grows.** Equipment leasing continues to expand, matching the general piggyback growth. J. F. Prendiville, XTRA president, sees, among other things, "a definite increase in the use of containers, especially in the intermodal field." He predicts a 25% increase in XTRA's railway business this year, reporting that the 40-foot dry van is still most popular.

REA Leasing expanded its fleet of trailers by 57% to 5,500 units in 1965 and saw gross revenues go up 35%; estimates that it now supplies 10% of piggyback trailer equipment used by railroads.

REALCO's revenues are seen growing by 60% this year, mainly because of new services and programs for the 71-member National Railroad Trailer Pool. The REALCO fleet is composed mainly of closed vans.

While for several years there has been speculation about the lengths which trailers will ultimately reach—important because of the effects on piggyback flat cars—there seems to be no trend away from the present standard 40-foot unit. "We have yet to receive a request for a trailer longer than 40 feet, and it does not appear that there will be any change this year," reports XTRA. "As for shorter, or double-bottom trailers, we do not expect to become involved with this equipment this year."

Fruehauf believes that for the present the 40-foot trailer will continue most popular. "A few of the more venturesome companies will probably test the 'doubles' philosophy in piggyback service," observes Fruehauf's Foulkrod.

(Continued from page 42)

Shippers of commodities now requiring general service box cars were the strongest advocates of an increased role for the ICC in car supply. They were joined by a group of predominantly traffic-originating railroads. The debate centered generally about the role of traffic originating and traffic-terminating railroads in supplying cars, a controversy which has raged for many years.

● **Unresolved controversy.** "It doesn't do much good for a shipper to be told that the car he can't get is bigger," observed one shipper spokesman about the time of the House hearings. "These forest-products shippers are already mighty reluctant to use box cars with six-foot doors," a railroad traffic man responds. "If we expand our general service box-car fleet we may find that in about five years their handling methods will have so changed that they will be refusing to use box cars at all."

While carbuilders report that railroads are now placing some orders for general service box cars and gondolas, some of the specialized cars put in service over the past few years have actually served to expand the general service car fleet. Piggybacking has undoubtedly transferred many cargoes, which once would have moved in box cars, to trailers.

"As a by-product of the mass installation of multi-level auto-rack cars, our fleet of 50-foot box cars with double doors 12 feet or more wide was made available for general loading," A. E. Perlman, New York Central president, explained recently. NYC owns over 8,000 of these cars, about 10% of the total U.S. fleet.

In one typical month the NYC's Flexi-Van cars made 6.1 loaded trips with an average of 1.9 loaded vans per trip. In that month the van and car fleet produced 7,997 loaded 40-foot van trips, which Perlman says is comparable to an ownership of 9,462 40-foot box cars. The average NYC box car required 26.2 days per load.

● **Just how big?** Added to the specialization of cars ordered last year was the concentration on high unit capacities. A greater proportion of 100-ton cars was ordered than ever before. There were several orders for 125-tonners. In the last half there were orders for 150-ton cars which will move in regular interchange service without the speed restrictions applied to such heavy units in the past. These developments are putting unprecedented demands on the railroads' fixed plant—rails, roadbed and bridges.

Car designers are far from unanimous about just where the drive for jumbo cars will lead. "Limiting factors of roadbed and structure loads, plus sizeable capital expenditures to increase clearances beyond Plate C limitations would seem to indicate that we have about reached the practical size of equipment," says R. E. Gunderson of Gunderson Brothers Engineering. "There will, of course, be exceptions, based on special moves or lines to serve new plants."

Magor Railcar sees the trend to large-volume, high-capacity cars possibly leveling off at 100-ton capacity, with further developments dependent on technical advances and improvements in operating facilities. Greenville Steel Car notes that 100-ton bulk cars are about the limit for existing dumpers. Evans Products looks to the 125-ton coil steel car as one with good potential, although "the limit may have been reached so far as some commodities are concerned."

Pullman-Standard reports that its market-oriented organization sees "the sky as the limit" in car size, but tempers this with the realities of restrictions imposed by existing railroad plant and shippers' and receivers' facilities. "When the physical limitations on users change, the cars will change with them," adds a P-S spokesman.

'There is an almost unprecedented, high-volume stability about the current car market. Orders last year topped the 60,000 mark for the fourth consecutive year . . . the first time since 1924-27.'

● **Articulation, a possibility.** R. L. Duchossois, Thrall Car president, points out that his company has "become involved in progressively larger cars each year." He notes that in handling bulk materials in unit trains individual car capacities may not be as important as the capacity of the entire train. "Articulation is a possibility and the right situation could lead to an articulated train," he says.

North American Car looks for the trend to giantism in freight cars to continue. There are six-wheel-truck tank cars in service now; there will be eight-wheel-truck tankers eventually, according to NAC's R. E. Hallberg, vice president and general manager. "We all realize that railroads are going to have to fix their roadbeds to handle this heavier equipment," he explains. "I am sure they will, as they lowered tracks in tunnels to handle the tri-level flat cars and dealt with curvature problems created by the increased length of new cars."

● **Car-building capacity.** Irrespective of unit size, can railroads secure the number of new cars which ARCI's Schroeder and others see them needing and ordering in 1966 and subsequent years? With the squeeze on general service cars, most railroad shops are busy at upgrading and rebuilding programs. The traditional do-it-yourself group of railroads which build their own new freight cars as well as repair existing cars have their shops booked through much of this year.

Typical are the Pennsylvania, which will turn out over 1,200 new box and hopper cars at Hollidaysburg, Pa., this year; Union Pacific, which will build 600 box and flat cars at Omaha, Neb.; and Northern Pacific, which will assemble 600 standard and insulated box cars at Brainerd, Minn. Other roads with extensive home-grown car-building plans include Burlington, Chesapeake & Ohio, Norfolk & Western and Santa Fe.

Even rebuilding freight cars is not the in-kind restoration which it once was. Louisville & Nashville is rebuilding 1,800 50-ton open-top hoppers into 60-tonners at South Louisville, Ky. Southern Pacific is in the latter stages of a program of putting 10-foot door openings in 7,500 older narrow-door box cars as they are rebuilt—a $9.3-million program scheduled to be concluded at Sacramento, Cal., this year.

SP President B. F. Biaggini recently described the program as the "first big-scale effort launched by any railroad to widen the doors of older, conventional box cars which, because of changes in loading techniques and increased dimension of products like plywood, no longer meet the convenience of many forest-products shippers." Biaggini calls his road's door widening program for box cars "an outstanding example of what can be achieved by a carrier and its customers. This conversion program was the direct result of talks between SP and the Douglas Fir Plywood Association."

● **Unprecedented stability.** There is an almost unprecedented, high-volume stability about the current car market. Orders for 80,000 cars in 1966 would top the 60,000 mark for the fourth consecutive year—the first time this has happened since 1924-1927.

Such demand is enticing new entrants into the contract carbuilding field and leading old-line carbuilders to do some long-term rearranging of facilities. Recent entries in the car-building field include Evans Products at Plymouth, Mich., and Blue Island, Ill.; Transco Division of Transportation

(Continued on page 138)

1966 OUTLOOK

Diesels: Sales and power are climbing

Replacement programs move into high gear as 14 new models — seven with ac-dc systems — go into production.

BY C. L. COMBES, MECHANICAL EDITOR

COMBES

Locomotive orders were strong in 1965, will keep moving upwards in 1966. For the first time since railroads dieselized, locomotive buying in 1965 approached a rate that takes care of obsolescence. When final figures are available next month the installation of new power last year will be shown to have exceeded 1,200 units. Installations should be around 1,500 units in 1966.

● **Why are orders increasing?** There are three major factors explaining the increase in locomotive orders. Railroad traffic has been good, is expected to get better; railroads are improving their competitive position with new equipment, and too many old locomotives that have reached the "end of the line" economically speaking, are in the nation's motive power fleet.

F. G. Fisher, chief mechanical officer, Reading, and chairman of the Locomotive Maintenance Officers Association's Committee on New Motive Power Developments, recently analyzed the situation correctly. In answering a question on how to plan for diesel replacements he said, in part: "Boldly getting rid of obsolete locomotives, and presumably acquiring new units, implies a positive attitude toward studying and cultivating market changes and preparing to supply them. Operating at excessive cost with obsolete locomotive units implies a sheltered position competitively. This the railroads do not enjoy. Furthermore, retaining obsolete locomotive units without making use of their remaining value as an equity for new power implies a stagnant situation with too much money tied up in idled, shopped locomotive units.

● **Old locomotives a liability.** "The railroads must improve their service to compare with other forms of transportation; to be competitive their operating expenses must be reduced. With a trend toward higher speeds, handling the same or heavier trains requires a more powerful locomotive than the units reaching the 15-year age level. Remember that a diesel unit has no known life expectancy so long as it receives routine maintenance and periodic overhauls; so long as we schedule the repair bills in our budget; and if we are content with the original horsepower and tractive effort ratings. Obsolescence works 24 hours a day and a diesel locomotive unit is no more immune to technological obsolescence than was the steam locomotive or any other piece of machinery."

For a replacement schedule, the LMOA committee suggested the following for road freight units: A unit operating 10,000 miles per month or more—replace in 12 to 15 years; a unit

FIRST OF A NEW LINE this General Motors GP-40 is one of fifty 3,000-hp units delivered to the New York Central.

GENERAL MOTORS' PROTOTYPE SD-45 nears completion. The 3,600-hp single-engine model has six-axle trucks.

We made 4 locomotives run on the oil for 3!

(New DIOL® RD 80 cut oil consumption 25% in 400,000-mile test.)

Long, heavily-loaded coal trains like the one shown made the Norfolk & Western an ideal choice to test Humble's new diesel crankcase oil. We ran it in 4 new turbo-charged heavy-duty freight locomotives, and logged 400,000 miles in severe service. Month after month we compared new Diol RD 80 against a standard premium-quality reference oil operating in identical new locomotives in the same service. Results were conclusive. New Diol RD 80: ■ Cut oil consumption 25%. ■ Had low viscosity increase throughout its service life. ■ Retained its high base number to neutralize engine acids longer. ■ Demonstrated superior filterability. ■ Kept wear to extremely low levels. If you're not yet using new Diol RD 80, you may be buying a lot more oil than you need. For full details, call our local Railroad Representative. Or write to our Railroad Sales Department in Houston, Texas.

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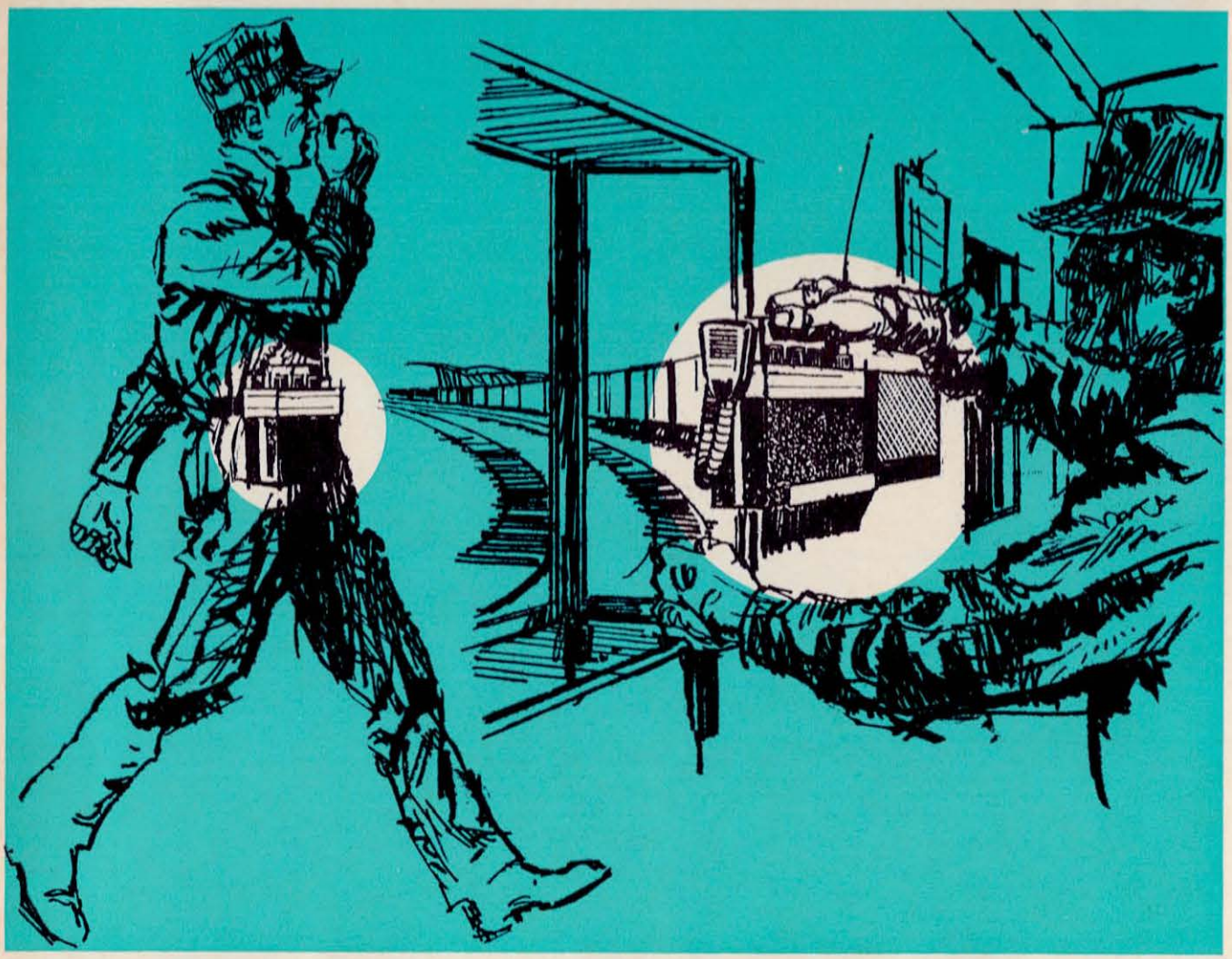

PACK IT... RACK IT

WABCO's DUOPHONE converts from portable to mobile 2-way radio system in seconds ...saves over $500 per caboose installation

WABCO's new Duophone offers an unbeatable combination of versatility, power and reliability; converts from portable unit to mobile radio station for caboose or other vehicle when you slide it into a mounting rack.

This *automatically* disconnects the portable battery and plugs in the external power supply; *automatically* switches from the portable whip antenna to the external roof-top antenna; *automatically* changes reception from the portable speaker/microphone to the more powerful built-in amplifier/speaker unit in the rack. Savings of over $500 result because Duophone's twin capability eliminates the need for having both fixed and portable radios.

The husky 3-watt transmitter output has the reach needed for track-to-tower or cab-to-caboose communications. *Brand new solid state circuitry* operates on easy-to-obtain lantern batteries for portable use. An extremely sensitive receiver coupled with the rack-mounted 6-watt audio power amplifier/speaker provides sharp, clear reception, even under the most adverse conditions. More information? Gladly. Write Union Switch & Signal Division, Westinghouse Air Brake Co., Pittsburgh, Pa. 15218.

A NEW SWITCH IN RAILROAD COMMUNICATIONS FROM UNION SWITCH & SIGNAL

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New ac-dc transmissions to be appraised

operating up to 10,000 miles per month —replace in 14 to 17 years. For yard switching units it was suggested that replacements be at 18-to-22-year intervals.

● **Power up, numbers down.** Numbers may be misleading in making comparisons. Locomotives, like freight cars, have little resemblance, except in configuration, to those built six years ago. In 1960, most of the diesel-electrics delivered were in the 1,500- to 2,000-hp range. Last year, the majority were in the 2,500- to 2,750-hp class. In 1966, most will carry 2,800- to 3,600-hp ratings, almost twice those of six years ago. Total capacity, whether measured by horsepower or by tractive effort, has been rising even as total numbers of units have been decreasing.

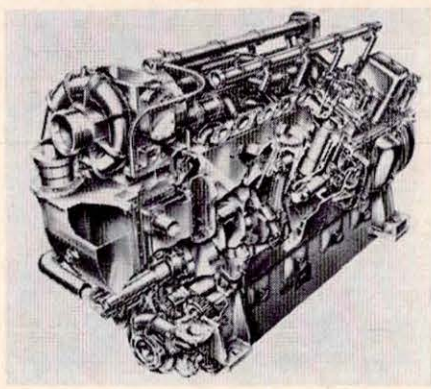
● **Major power change.** Locomotive builders announced the biggest change in models for 1966 delivery since diesels were first introduced. Fourteen new models are available for selection. Seven of the 14 have the new ac-dc transmissions, making 1966 the year that the potential of the alternator-silicon rectifier-dc traction motor combination will be determined under all kinds of operating conditions.

Alco delivered the first of the domestic ac-dc designs ordered by a railroad in July 1965, when the first 3,000-hp, six-axle Century 630 of a three-unit order reached Atlantic Coast Line rails. It also announced the companion four-axle model, the Century 430. With delivery of the remaining two 630 units to the ACL in late December, an appraisal of the model's performance should be possible early this year.

● **EMD's new power.** Electro-Motive was first with the ac-dc transmission on the rails, having service tested the design for more than two years prior to announcing a complete line of nine new models last June. Five of the designs: the 3,000-hp GP-40, SD-40 and SDP-40, the 3,600-hp SD-45, and the two-engine, 6,000-hp DD-40 have the ac-dc transmission. The other four: the 1,000-hp SW-1000, the 1,500-hp SW-1500 and the 2,000-hp GP-38 and SD-38 have straight direct-current transmissions.

Early appraisal of EMD's ac-dc transmission, as well as its new engine series, the 645, is also possible. The first 50 of the four-axle GP-40 model have already been delivered to the New York Central. Most of the 2,800- to 3,600-hp models ordered this year will be six-axle designs, following a trend that started two years ago. But the New York Central is an exception, with its mainline operations over a water-level route requiring horsepower for acceleration in high-speed service rather than the added tractive effort of the six-axle locomotives.

DELIVERED IN LATE 1965 the ALCO Century 628 is similar in appearance to Alco's ac-dc, 3,000-hp Century 630.



ALCO's Model 251 V-8 engine will power the 1,500-hp Century 415 utility locomotive to be announced early this year. It is designed for transfer, branch line and switching service.

● **GE boosts ratings.** General Electric has increased horsepower to 2,800 in its new U28B and U28C models, and to 5,600 in its two-engine U56. GE has stayed with the straight direct-current transmission, pointing out that limitations of its dc generator will be reached in the 3,000- to 3,500-hp range. Yet GE has also announced that it will produce some alternator-rectifier locomotives in 1966.

● **Alco is optimistic.** In a year-end statement, W. F. Lewis, president, Alco Products, Inc., saw a strong demand for locomotives for the remainder of this decade.

"Modernization of the locomotive fleet is among the most important aspects of the industry's improvement program. Last year domestic railroads purchased 1,200 new locomotives, a total we think will be equaled in 1966. Most of the locomotives are high-powered units of 2,500 horsepower and up, which can move freight on faster schedules than the less powerful models they replace," Lewis said.

"Despite the stepped-up locomotive purchases of the last few years, most of the 29,000 locomotives in service today on Class I railroads were purchased in the post-war period of heavy changeover from steam locomotives. These diesels, nearing the end of of their effective lives, are becoming increasingly expensive to operate and maintain. That is one major reason locomotive sales can be expected to remain strong for the remainder of the decade.

"We believe that the trend to higher horsepower locomotives will continue during that period, and have planned accordingly. We made initial deliveries

(Continued on page 55)

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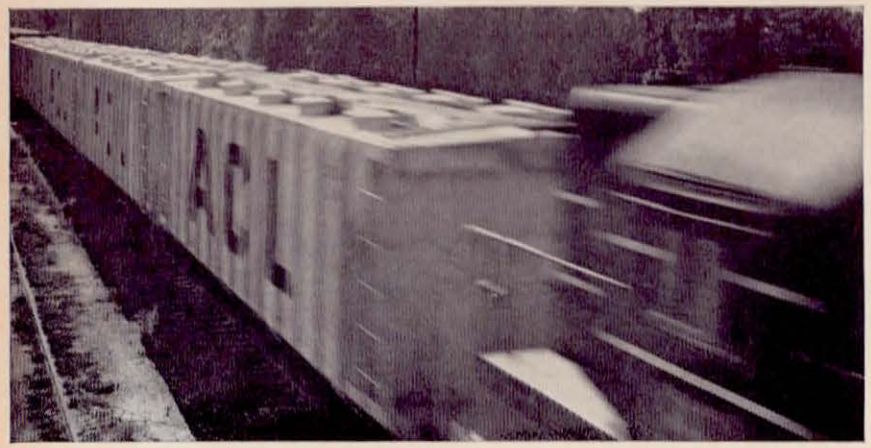
to haul minerals



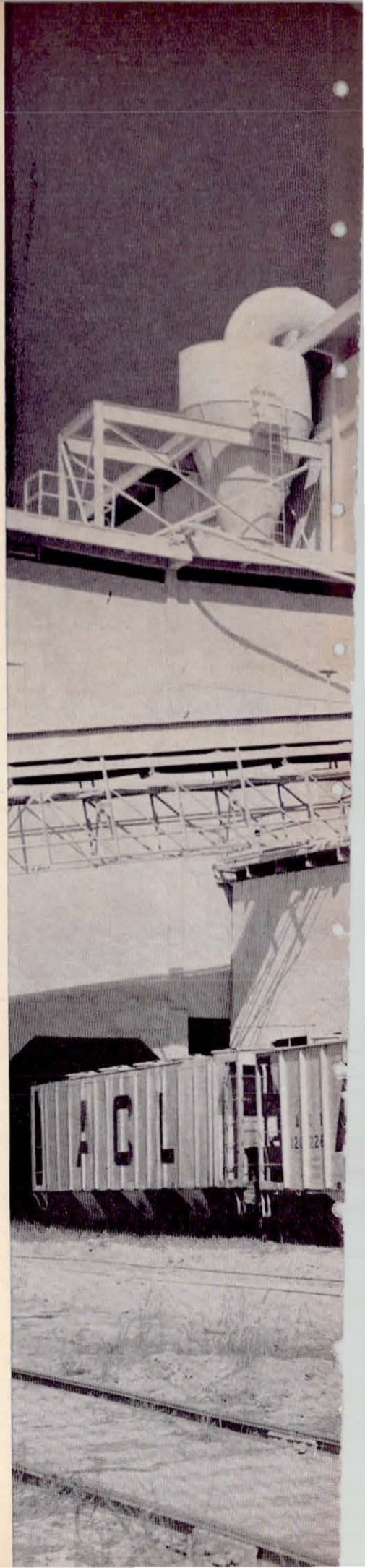
P-S covered hoppers are tailored to meet the need

Consider, for example, the PS-2 "2929." This Pullman-Standard covered hopper is a familiar sight in the phosphate-rich country along the Atlantic Coast Line Railroad in central Florida. In fact, the ACL has a huge fleet of these covered hoppers assigned exclusively to hauling phosphate, the ACL's largest single traffic commodity.

After extensive studies, this P-S car was cooperatively developed with the ACL and its shippers and receivers of phosphate. It is a basic PS-2 design with appropriate optional features selected to make it the perfect car for phosphate.

Round hatches, for instance, were chosen and located to fit loading facilities of phosphate industry installations. The car's six side discharge gravity outlets meet specific unloading requirements of receivers. And the 2929 cubic foot capacity of this covered hopper permits maximum capacity loads of the major earth-enriching mineral.

The complete line of P-S covered hoppers ranges in capacity from 2600 to 6300 cubic feet. And just like the PS-2 "2929," each size is offered with a wide variety of options, making it possible for Pullman-Standard covered hoppers to meet the handling requirements of almost any dry bulk commodity—mineral, chemical or agricultural—shipped on the nation's rails. Call or write us for details.



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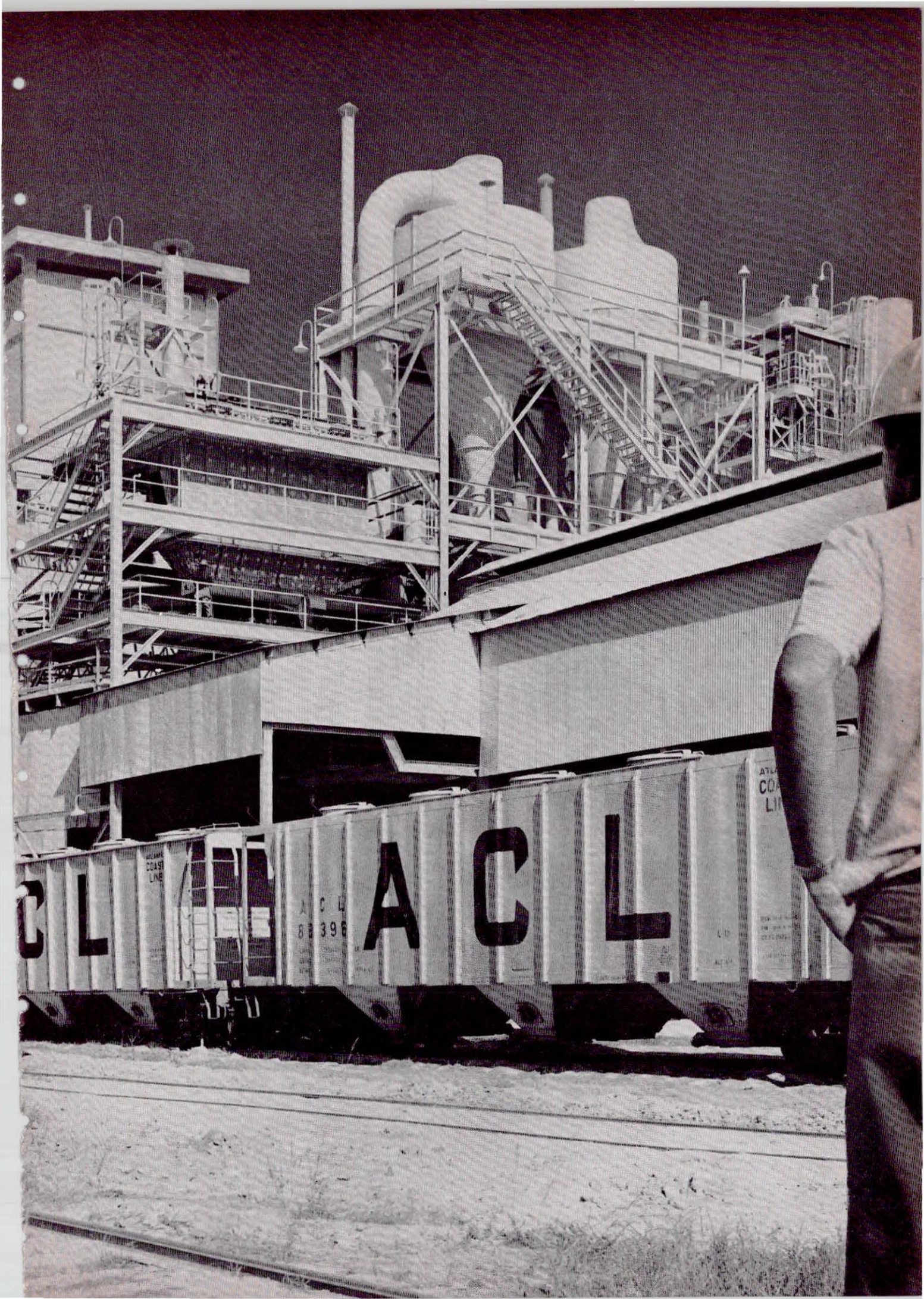
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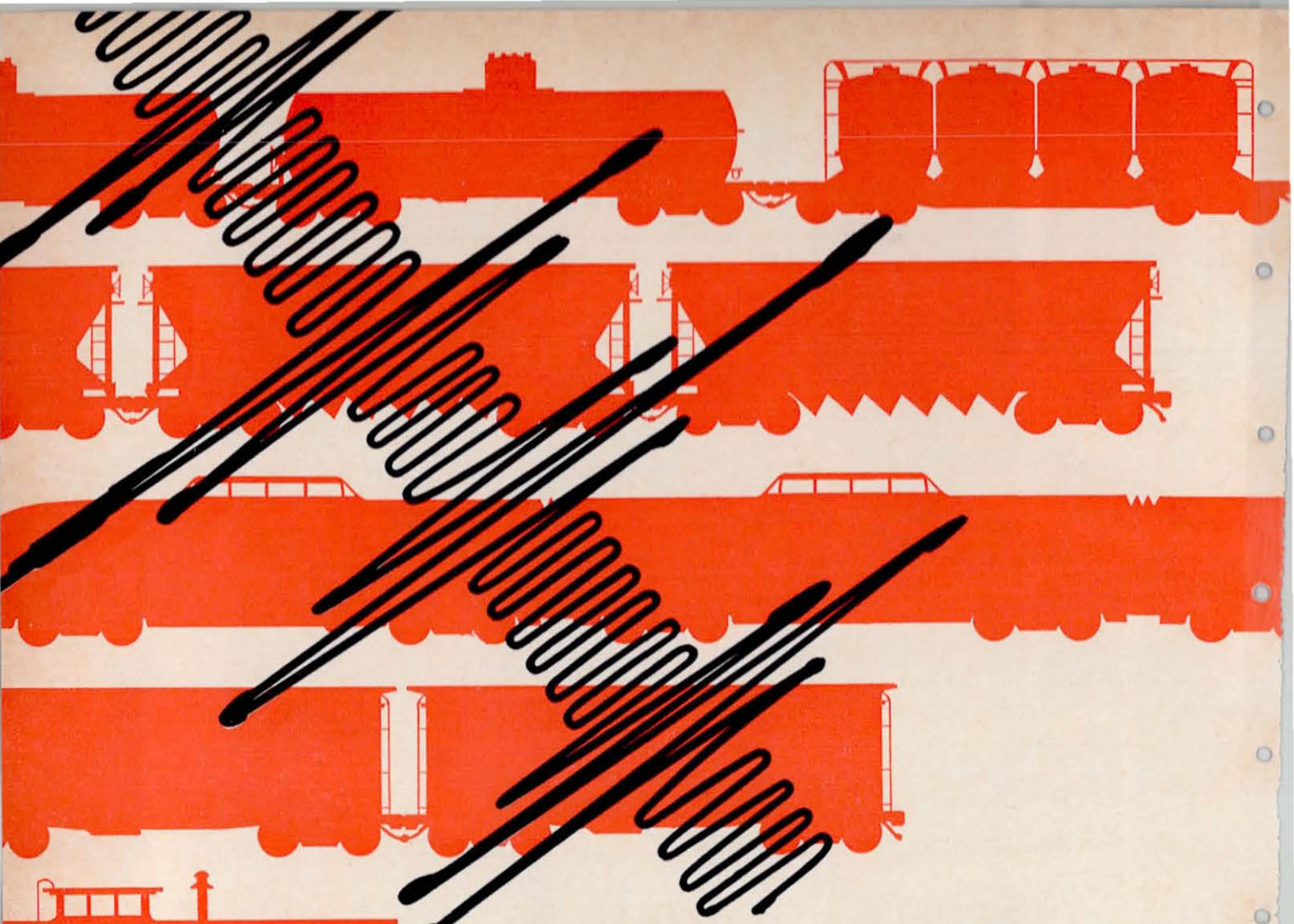

Rolling stock speaks up

Cars and locomotives identify themselves quickly and accurately with G-E automatic car identification (ACI). It so improves manpower and equipment efficiency that industry estimates show investment payback in two to four years.

General Electric ACI uses no visual scanning—snow, fog, ice, or dirty atmospheres can't bother it. Almost two year's testing on an eastern railroad proved this. And reliability tests showed a 99.95% accuracy. Car markings covered with spillage from contents don't matter. Even unmarked cars are recorded.

HOW IT WORKS

A compact Dezignator* coding unit under each car electronically responds to frequency pulses from a wayside scanner as the car passes over a pick-up unit between the rails. (Car height, shape, or track settling won't affect operation. Critical focusing or adjustment is unnecessary.) Wayside equipment decodes the pulses, and the car number can be instantly transmitted to the yard office for data processing in train make-up, car utilization, per diem accounting, car tracing, and car mileage revenue.

COMPONENTS

One Dezignator coder mounts **beneath** each car away from vandals and trackside damage. Operating from —66 to 150F, the coder withstands 100 G's shock and damage from flying ballast or other objects. What's more, the Dezignator unit is permanent. There's no periodic replacement for deterioration from sun, rain, and wind.

Equally durable, the pick-up unit withstands damage from objects suspended or falling from cars. Standing rail-high, it has no moving parts, requires no maintenance and responds to cars moving in either direction at speeds up to 60 mph.

The wayside equipment decodes the signals, records them, and reads out three-letter owner's marks and six-digit car numbers. Train passing time and direction can also be provided. Only 115 volt, 60 cycle wayside power is required. General Electric GE/PAC process computers are easy to apply to this ACI system for data processing.

Let us help you increase efficiency, car identification speed, and accuracy in your yard. Contact your nearest G-E Sales Engineer. Or write for bulletin GEA-7646 to Section 787-04, General Electric Company, Schenectady, N. Y.

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Progress Is Our Most Important Product

GENERAL ELECTRIC

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Higher speed, unit trains dictate more power

(Continued from page 51)

in 1965 of our new 3,000-hp Century 630 and have received orders from several railroads for the six-axle 630 and its companion four-axle model, the Century 430. A significant feature of these locomotives is a new alternating-current electrical transmission system that opens the way to the even more powerful models."

● **New models coming.** Mr. Lewis also told about new designs to be introduced and under development. "Indicative of the way in which horsepower-per-unit has been climbing, Alco will introduce in 1966 a multi-purpose utility locomotive as powerful as the mainline units of a few years back. This 1,500-hp locomotive has been designed to fill a growing railroad need for efficient, economical motive power for transfer, branch line and switching service.

"Another locomotive development of great potential is the diesel-hydraulic. The first three diesel-hydraulics built by Alco, rated at 4,000 horsepower, have been in operation for more than a year on a western railroad with favorable results. We now are working on an uprated diesel-hydraulic of approximately 5,000 horsepower. Only Alco of the three domestic locomotive manufacturers offers three power transmission systems: direct-current, alternating-current and diesel-hydraulic.

"Overseas, the transition from steam to diesel power is in an earlier stage than in this country, especially in Asia, Africa and South America. There are more than 2,500 Alco diesel-electric locomotives in service overseas, totaling about 4.5 million horsepower, and we expect to add considerably to these totals in 1966."

● **EMD discusses favorable factors.** In a special statement to Railway Age, B. B. Brownell, vice president of General Motors and general manager of the Electro-Motive Division, saw several factors that will improve industry sales. He said, "A strong national economy, improved competitive position of the American railroads, and continued expansion of motive power replacement programs—factors which influenced the upsurge in the domestic locomotive industry in 1965—should provide the basis for further improvement in sales by the industry in 1966.

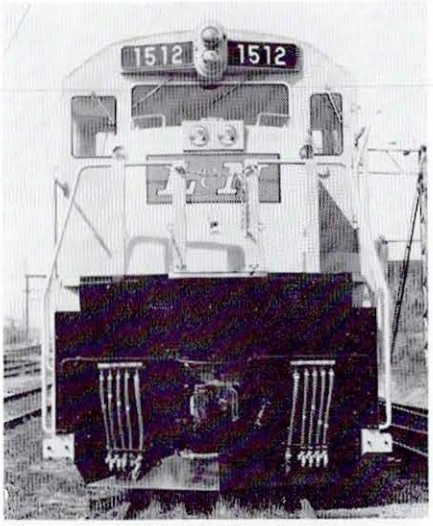
"For the next several years, the replacement locomotive business should remain healthy if U.S. railroads are to keep pace with current economic obsolescence of motive power fleets. This replacement demand is further strengthened by the increasing trend to higher speed freight trains and growth in popularity of the integral-train concept for movement of single commodities in heavy tonnages—both of which dictate more horsepower."

● **EMD's new locomotives.** Mr. Brownell pointed out how EMD met needs for more powerful locomotives: "In response to strong demands by railroads for more power, for more efficient movement of both high speed and heavy tonnage trains, Electro-Motive Division in 1965 announced the broadest and most powerful locomotive line in its history. For the first time, horsepower was elevated in each of nine domestic models. Highlighting these developments was introduction of a new diesel engine—the 645 series—and offering, for the first time, a 20-cylinder model.

"The large 20-cylinder engine is prime mover in a new six-axle, six-motor, 3,600-hp SD-45 locomotive which combines the high speed characteristics of the popular GP series and the heavy drag attributes of the 3,000-hp six-axle SD-40 locomotive. The broad range features of the new SD-45 should make this versatile unit an important part of the motive-power fleet as the railroads reach for new and more efficient tools."

● **Significant trends.** Other factors are influencing capital spending. Mr. Brownell said, "Carloadings, which reached some 30 million cars handled in 1965, were up 2% over 1964. Of more significance, however, is the continued improvement in net ton-miles of revenue freight which last year exceeded any year since World War II, reaching 700 billion—a gain of 6% over 1964. Piggyback continues its amazing rise, with over a million cars handled last year—a gain of 15%.

"These factors, we believe, will continue strong in the year ahead as gross national product continues to grow at an annual rate of some 6%. Fostering the railroads' position in 1966 is the healthier climate brought about in part by efficiencies accruing from mergers and by the strong competitive position enhanced by the large capital equipment programs. Capital spending, at the rate of 1.6 billion dollars in 1965, is expected to continue at least at that rate during 1966 and indications are for a 10% boost in expenditures for rolling stock, roadways and structures this year and also in 1967. ■



GENERAL ELECTRIC'S U25B locomotives went to the Louisville & Nashville. It is a four-axle 2,500-hp design.

GE U28'S CONFIGURATION is similar to this E-L U25B but the horsepower has been boosted from 2,500 to 2,800.

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Circle 29 on reader service card

1966 OUTLOOK

C&S spending will be near $93 million

Outlays for equipment and hardware alone are expected to exceed $56 million, some $3.7 million more than was spent in 1965

BY ROBERT W. McKNIGHT, SIGNALING & COMMUNICATIONS EDITOR

McKNIGHT

U.S. and Canadian railroads and transit authorities will spend some $93,000,000 for communications and signal additions and betterments this year. The annual Railway Age survey of spending plans indicates that 52 railroads and transit authorities have budgeted $92,862,807 for C&S facilities in 1966. That figure is about $2,000,000 higher than the average spent in each of the preceding four years. Outlays for hardware and equipment alone are expected to total $56,355,341, a $3.7-million increase over last year.

COMPUTERS now control automatic retarder classification yards, switch messages and circuits in communications systems, and perform simulation tasks in signaling and communications.

● **Microwave keeps growing.** Survey figures indicate that 700 route miles of microwave systems will be installed during 1966. This compares favorably with previous years. Eleven U.S. and Canadian railroads have, or are in the process of completing, microwave networks that are system wide. Three other roads have made starts on such projects. The reason can be summed up in the following words of one communications officer: "We must provide high-speed, weatherproof communications for data transmission from over 30 locations to our railroad's computer center."

Several survey respondents indicated continued expansion of their dial telephone systems. Message circuit dialing will be a front runner in 1966 for the communications dollar. Several hundreds of miles of this economical means of extending dial telephone service to waystations on main and branch lines will be installed during the coming years.

Although many railroads have made considerable progress in consolidating agencies, those that remain unconsolidated are important links to the roads' customers. Accordingly, fast and efficient telephone service to these agencies is considered an important requisite for maintaining good shipper relationships. An important advantage and timesaver for the local agent with dial telephone service is the speed with which he can call anyone else on the road. For example, he is quickly able to call the rate bureau at the road's headquarters to obtain information for a shipper.

Calls, such as those mentioned above, are more than likely to go through one or more exchanges or PBXs. Indications are that roads will continue to convert manual PBXs to completely automatic operation during 1966 and, will do so at the rate of 25 or more exchanges.

In another area of improving existing communications services, six railroads reported they will upgrade their teletype facilities by installing new equipment. One road expects to complete a program of raising the speed of teleprinter transmission from 60 to 100 words a minute. Of the 46 railroads reporting on specific additions to their communications plant, over half will make significant installations of carrier equipment to increase the number of telephone and telegraph channels available.

● **Graphic transmission.** Two railroads are using facsimile or graphic transmission to handle waybill information from yards and interchange points to a central computer and data processing headquarters. Denver & Rio Grande Western placed such a system in operation in 1960. Southern's system went on-stream last summer. Major advantages appear to be the centralization of key punching or abstraction of information from the waybill; and error-free transmission. Several other railroads are reported to be studying the possibility of using graphic transmission techniques for their own operations.

Graphic, or facsimile transmission, requires a 240-kilocycle bandwidth, which can be supplied only by microwave. It takes about 6-8 seconds to send a waybill via microwave to a data processing center several hundred miles distant. While such speed is considered essential for handling waybills from major terminals, a new development promises to be practicable from small agencies. Equipment, which is reported to be available in 1966, will operate over a telephone circuit and provide facsimile transmission of a waybill. Transmission time will be 6 minutes, according to one observer, and will not be burdensome for the small agent handling a half-dozen waybills daily.

At the present state of the art, waybill information must be transferred by a key punch operator or data input operator onto a punched card or paper tape for computer input. At least one railroad has been experimenting with various type fonts for typewriters so

Two-way radio systems will be enlarged in 1966

as to prepare waybills with a machine-readable type face. The next step would be to use facsimile for sending the waybill to a data processing center where optical character recognition devices would read the waybill and provide direct input to computer memories.

• **VHF radio grows.** In addition to expanding data transmission facilities, railroads are planning considerable enlargement of their two-way radio systems in 1966. A spot check indicates that at least 1,231 radio sets will be purchased this year. The total number will probably be about 4,000. Although most radios now being purchased are walkie-talkies, including replacement of vacuum tube sets with transistorized units, a considerable number of sets will be for use by M/W and mechanical department forces.

• **Communications budgets.** Forty-six railroads and transit authorities gave Railway Age their budget figures for communications in 1966. The figures total $38,163,625. Of this total, $28,915,754 is for equipment and materials only.

Many roads compared this year's spending plans with last year's. Thirty reported plans to spend more money in 1966 than they did in 1965. Eight roads are budgeting about the same amount of money for communications this year as last. Only seven railroads indicated smaller plans for 1966.

• **FCC vs AT&T—what next?** Communications planners may be in for a hectic year. At year end a U.S. District Court of Appeals in Washington, D.C., was taking oral testimony regarding a Federal Communications Commission decision concerning American Telephone & Telegraph Co.'s Telpak tariff for bulk communications. The FCC had issued a tentative ruling declaring that the lower Telpak channel offerings (12- and 24-voice channels) are not justified by competitive necessity. Also, the FCC ruled that the larger Telpak units (60- and 240-voice channels) are not compensatory at present rates. The present court hearings resulted from the desire of Telpak users to overturn the FCC decision. To add to the general unrest in this area of common carrier communications, the FCC has announced it will begin a general rate investigation of the telephone company.

Another communications development to watch during 1966 is this: What action, if any, will be taken by Aeronautical Radio Inc., a communications service organization for airlines. Arinc, which now uses 48,000 Telpak units, is exploring the possibility of establishing its own nationwide private microwave network of 5 million circuit miles. Arinc has asked for bids on such a network by April 1, 1966. The network would tie together 260 locations in the U.S. via 23,000 route miles of microwave.

• **Signaling budgets.** Budgeting for signaling in 1966 is $9.6 million over last year. The budgeted $54,699,182 covers the 52 railroads and transit authorities in the Railway Age survey. Twenty-seven respondents indicated increased signal expenditures for 1966 over 1965. Twelve roads will spend the same amount of money this year, compared with last year, and twelve will spend less. For equipment and material purchases alone during 1966, the survey indicates that $27,439,587 will be spent. Thus, about half the money budgeted for signaling projects will go for installation, supervision and other non-equipment costs.

Many projects specified

Specific projects were mentioned by some respondents. For example, 311 highway-railroad grade crossings will be equipped with flashing-light signals and/or gates. In a continuing program of hotbox prevention, survey figures show railroads will purchase 111 hotbox detectors in 1966. Other safety detectors to be purchased include 8 loose-wheel units and 95 dragging-equipment devices.

Major signal projects listed for the coming year include new or rebuilt interlocking facilities at 16 locations and installation of centralized traffic control on 1,196 road miles of line. Other projects include installation of snow melters on switches, replacing of retarders with newer units capable of handling up to 160 gross tons per car, and installation of protective slide fences.

• **Jointless track circuits.** In a major signal project, the Chicago Transit Authority will install a cab signal and overspeed control system on its Lake Street line. A feature of this installation will be the use of audio frequency current in the track circuits which do not require insulated joints. Thus, the welded rail on the line will not have to be cut, and the passengers' comfort will be maintained with the smooth track. CTA expects this system to be in service in late summer of this year.

Several railroads reported they will be making installations this year that will obviate the need for insulated joints, except at wayside signal locations. Many will install audio frequency track circuits at railroad-highway grade crossings. Others will install Grade Crossing Predictors which require only one pair of insulated joints per track at the crossing.

In the field of centralized traffic control, several railroads indicated they will be consolidating control machines. Some will move machines to a central location. Other railroads reported plans to purchase new push-button control machines to handle the larger territory now covered by several conventional machines. A few roads reported major projects involving lengthening of sidings and, in some cases, removing short sidings to accommodate today's longer freight trains. In many instances time-distance studies of the entire CTC territory are involved. Some roads have found simulation of train moves on a computer to be helpful in planning CTC installations. Such simulation has been particularly helpful for planning siding locations in new territory. But such techniques might well be used for investigation of an existing CTC territory to determine if present siding lengths and locations are the most efficient for present-day traffic.

• **Digital control of yards.** Installations of digital computers to control retarder classification yards are under way at four locations. One such installation is partially in service: Alton & Southern's new yard at E. St. Louis, Ill. Three others are in various stages of construction, with Southern's Macon, Ga., yard scheduled to be in service this spring. Norfolk & Western is constructing an automatic classification yard with digital computer control at Bellevue, Ohio. Southern Pacific's yard at Eugene, Ore., will have similar digital controls.

The essential difference between these four yards and their predecessors is the use of a digital computer as the basic control unit, rather than an analog computer. In addition to automatic switching and automatic retarder control, each of the four yards will have a car inventory for its class yard. The digital computer will provide an accounting function along with its control function. Thus, car-location information will be readily available to the yardmaster and others. ■

1966 OUTLOOK

Mass transit: Fired up and ready to go

A big comeback in '66 is in store for the industry: Capital sums of $2 billion are building new systems and upgrading others.

BY JOSEPH ASHER, TRANSIT EDITOR

ASHER

So far as mass transit activity goes the kettle was warm all through the early Sixties, began simmering in 1965—and will come to a full boil in 1966.

The proof? Capital sums totaling $2 billion are either already committed or earmarked for construction of new transit systems or modernization of present ones. That's the observation of George DeMent, chairman of the Chicago Transit Authority, and industry spokesman as President of the Institute for Rapid Transit.

Here's how it added up in 1965:

—Two new cities gave indications of swinging into the mass transit column: Baltmore and Seattle.

—Two other cities started giving shape to the plans they already have: Los Angeles and Atlanta.

—Another two cities, Toronto and Cleveland, are extending their networks to tap new areas, while still two more cities are waiting in the wings: Washington, which needs the appropriations to go ahead and build; and Pittsburgh, which just launched a mass transit feasibility study.

As for the older systems of New York, Philadelphia, Boston and Chicago, the watchwords were upgrade, consolidate —and expand.

In the fall of 1965, Parsons, Brinckerhoff, Quade & Douglas issued a feasibility report on mass transit for the Baltimore area. It called for a 29-mile rapid transit system (costing $275 million) by 1985.

In Seattle, De Leuw, Cather recommended a 10-mile rapid transit system by 1975, to be expanded to a $161-million 20-mile network ten years later. As in Baltimore, enough of a local groundswell was generated for the report to start transit plans moving along smartly.

● **Atlanta's ready to move.** In June 1965, Atlanta and four surrounding counties created the Metropolitan Atlanta Rapid Transit Authority — the statutory body that will go ahead with plans now advanced for a $300-million system.

Los Angeles moved on from LAMTA, the local bus authority, to create SCRTD, the Southern California Rapid Transit District, the agency which will finance and construct the area's $600-million network. Some delays over methods of financing showed up during the year, but these should be ironed out during 1966.

San Francisco went on from the planning to the digging stage on the $1-billion 75-mile Bay Area Rapid Transit system. About $100 million in bonds were sold to cover construction of the tube under the Bay, and a $1-million sewer relocation program is in progress. The first segments of the system open in 1968, but a new car design from GSI was already adopted. The BART test program of new propulsion systems, trucks and other equipment is in full swing, and during 1966, the supply industry can expect big orders, notably for 450 cars and their components.

● **Montreal likes rubber on rail.** In Montreal, Canadian Vickers began delivery of 369 rubber-tired vehicles for the $225-million 16.1-mile Metro—due to open in 1967, in time for the World Exposition.

The Exposition will also feature a special automated 3.5-mile transit system right on the fair grounds. For this, Hawker Siddeley is building 48 cars, for which the control system will be furnished by Uniswitch, WABCO's Canadian affiliate.

Washington, D.C. has its $431-million plan for a 25-mile system drawn up and approved by Congress. De Leuw, Cather received a $719,400 conceptual engineering contract; first trains will be running by 1970; the entire system will be in operation by 1971.

Pittsburgh, long considered ready for mass transit, hasn't taken the plunge yet—but the big toe is testing the water. Port Authority Transit received a grant from the Commonwealth of Pennsylvania to conduct a mass transit feasibility study. Results should be ready in wo years.

The area has already seen two forward steps: PAT consolidated the bus lines under a single authority, and Westinghouse Electric, with public assistance, launched its South Park Transit Expressway—a demonstration project of new cars and equipment.

Toronto completed its Bloor-Danforth subway—the cross-town line intersecting the north-south Yonge Street line. The new subway will be in operation within the month, and deliveries are well advanced on 164 new aluminum cars purchased from Hawker-Siddeley.

● **Cleveland wants rapid way to fly.** Cleveland got its plans approved for a four-mile extension to the municipal airport. It's expected the new line will be finished in two years, and expenditures will come to $14 million.

In New York, the Transit Authority took last deliveries on a 600-car order of Budd stainless steel cars, ordered 200 new cars from General Steel Industries, and has plans to buy still another 200 cars of completely new design during 1966, with federal assistance.

The new city administration has revived plans for an additional east-side subway to relieve the present overburdened Manhattan lines. Other proposals under consideration are for use of New York Central tracks into Grand

(Continued on page 115)

1966 OUTLOOK

M/W men see good year ahead

Uptrend in new rail and tie renewals is expected to continue at an accelerated pace in 1966.

BY M. H. DICK, ENGINEERING EDITOR

DICK

Will the improved fortunes of railroads be reflected in more attention to the condition of the fixed properties?

Engineering officers on many roads have been asking themselves this question for several years. Now it appears that, for the industry as a whole, the answer can be given in the affirmative. In fact, there is a strong likelihood that in 1966 an upsurge of new-tie and rail insertions for replacement purposes may take them significantly out of the narrow range in which they have been held for years.

This statement is based on estimates made by this magazine from figures supplied by most of the Class I railroads.

These figures include the amounts of ties and rails inserted and track surfaced in 1965 and estimates of work planned for this year.

These figures show that the uptrend in new rail and tie renewals that began in a small way in 1962 (see charts) and continued in 1963 and '64, was maintained last year. And every indication is that the uptrend will continue at an accelerated pace in the year that is just getting under way.

● **Track-surfacing up 14%.** Looking first at 1965, it was track-surfacing that showed the greatest percentage gain over the previous year. A total of 46 railroads submitted figures on this type of work. These roads reported that they surfaced 22,343 miles of track in 1965, a gain of 2,737 miles, or 14%, over the mileage surfaced by the same roads in 1964.

It was in 1960 that Railway Age first began to obtain and publish figures on track-surfacing. And the figures for 1965 show that the uptrend in this important activity that had taken place in every previous year since then has continued for another year.

● **New-rail and tie renewals.** It is estimated by this magazine that last year the Class I roads inserted about 400,000 net tons of new rails in relay operations. This was an increase of 23,749 tons, or 6.3%, over the amount of new rail actually laid by these roads in 1964, as reported by the Association of American Railroads.

As for new-tie insertions for renewal purposes the estimate is that these came to 14,700,000 in 1965 for all Class I roads. This was an increase of 1,137,000 ties, or 8.4%, over the actual insertions of these roads in 1964, as officially reported by the AAR.

Estimated tie renewals last year were 2,929,520 ties above the all-time low reached in 1961. Despite this recovery, tie renewals are still far below the actual requirements based on a reasonable service life for treated ties.

● **Fewer secondhand ties.** A development that has had the effect of keeping down the need for new ties is the practice of installing secondhand ties. But this is declining. A total of 45 roads reported they installed 644,065 such ties last year. This was a reduction of 112,577 ties compared with installations of secondhand ties made by the same roads in 1964. Thus, the use of secondhand ties went down for the second year in a row.

In view of the appreciable increases that took place last year in major categories of work it would be logical to assume that total maintenance of way and structures expenditures underwent a comparable increase. Indeed, since an increase of nine cents an hour in hourly wages of non-operating employees was put into effect on January 1 last year, there are grounds for expecting a rather substantial increase in total M/W&S expenditures.

However, it is apparent that if there was any increase last year in total maintenance expenditures of Class I roads, it was nominal. At this writing official figures on revenues and expenses are available only for the first nine months of 1965. For that period, Class I railroads spent $915,001,858 on maintenance of way and structures. The change from the same period in 1964 was a very small (0.6%) increase. Thus, with the nine months as a basis, it is quite probable that total M/W&S expenditures for the entire year were just a shade higher than in 1964.

● **M/W ratio goes down.** Meanwhile, total operating revenues of Class I roads were making a much more substantial gain. Revenues for the first nine months last year went up 3.7% to $7,539.4 million. The effect was a decrease in the ratio of M/W&S ex-

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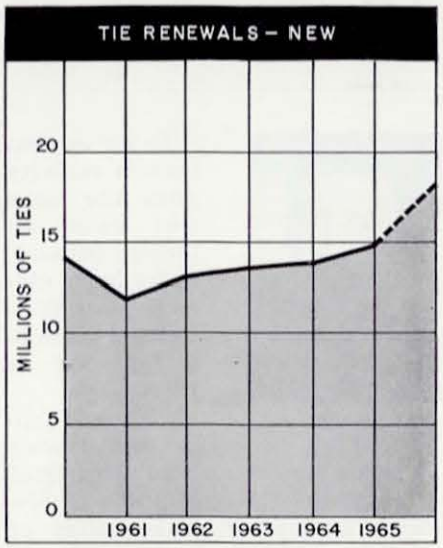
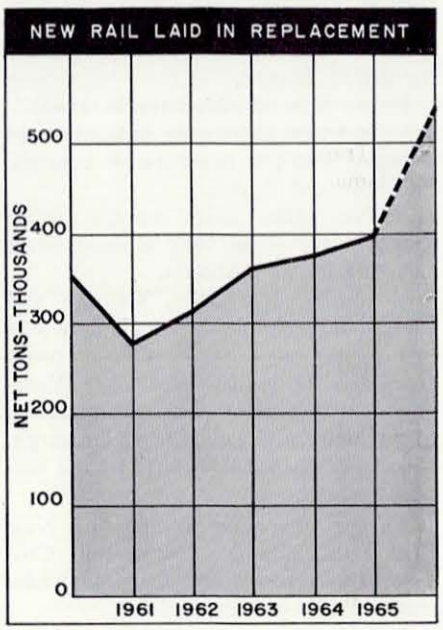
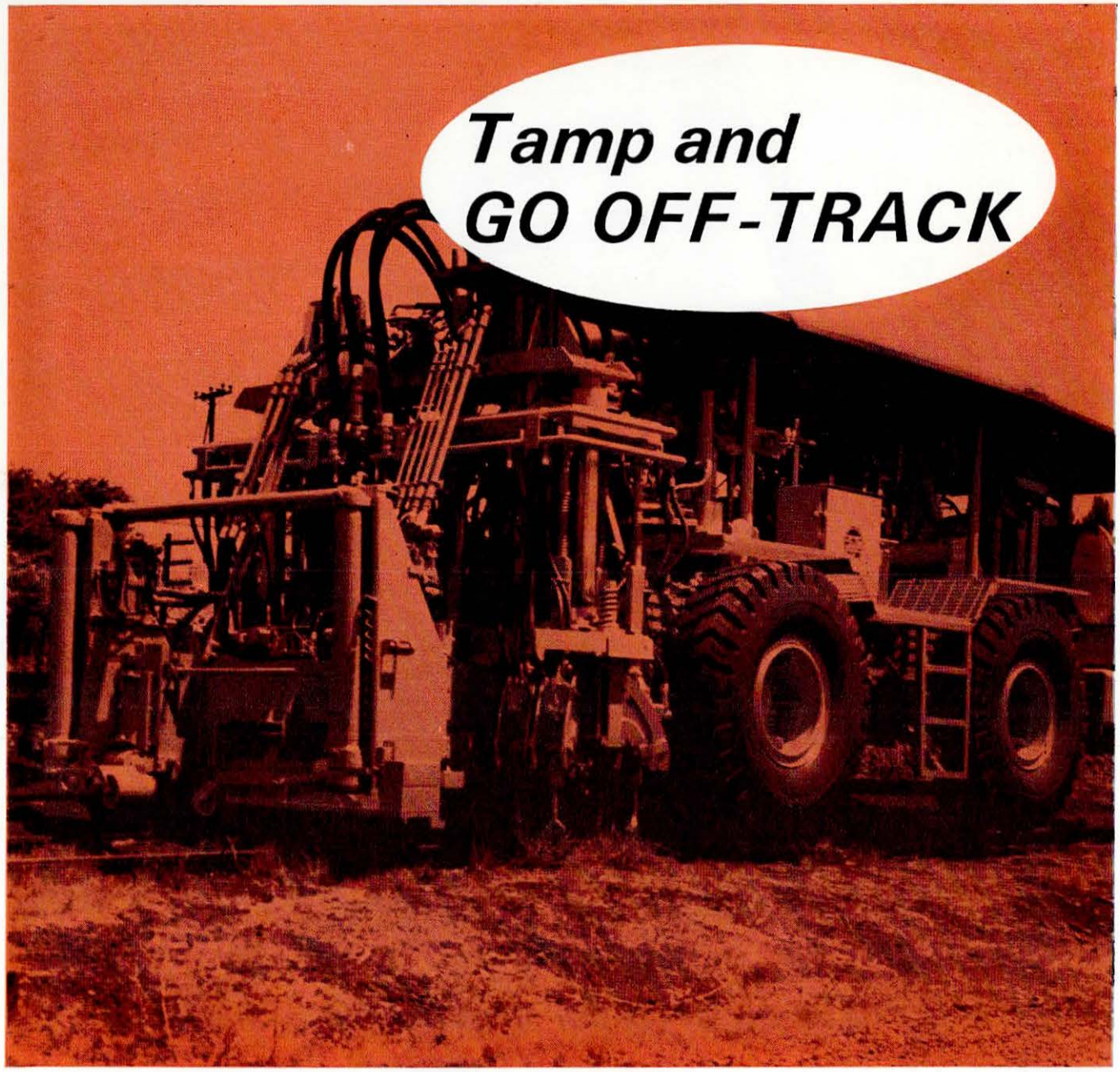
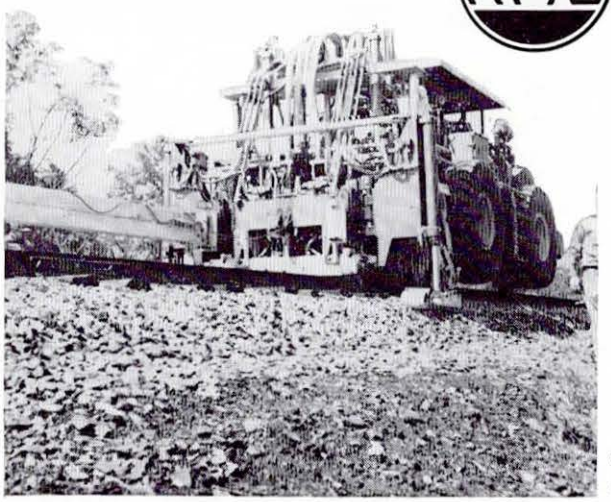




Tamp and GO OFF-TRACK





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More M/W mechanization is in the cards

(Continued from page 60)

penditures to operating revenues. For the first nine months of 1964 this ratio was 12.5%. For the comparable period of 1965 it was 12.1%.

How was it possible for M/W forces to hold dollar expenditures last year in such a narrow range in the face of increases in wages and in the amount of work done on the tracks? It is probable that the answer to this question has two aspects. On the one hand it is a well-known fact that strenuous efforts were made on most roads last year to boost the efficiency of M/W forces. Apparently these efforts were successful. At the same time it is doubtless true that some cutbacks were made in "less-essential" categories of work.

With 1965 now history what can be expected in 1966? Here are projections of activity for the year based on the railroads' own estimates of the work they plan to do:

● **New-tie renewals.** Class I railroads will insert a total of about 17,100,000 new ties in replacement in 1966. This will be an increase of 2,400,000 ties, or 16.3%, over the estimated figure for last year. If the estimate holds, new-tie renewals for this year will be greater than for any year since 1957, when they came to 22,082,225 ties.

● **Secondhand ties.** The use of secondhand ties will apparently undergo another slump in 1966. The same 45 roads that reported on installations of secondhand ties in 1965, estimated they will install a total of 368,505 such ties this year. This will represent a reduction of 275,560 ties, or nearly 43%, compared with the number of such ties inserted by these roads last year.

● **New-rail renewals.** This category of work will show a greater percentage gain this year than any other—and by a considerable margin. Estimates are that Class I roads will install 537,000 net tons of new rail in replacement in 1966. This would represent an increase of 137,000 tons, or 34.3%, compared with the estimated figure for 1965. Providing new-rail renewals come reasonably close to the estimate, they will be greater than for any year since 1957, when they came to 770,972 net tons.

● **Track surfacing.** The 46 railroads that submitted figures on this type of work estimate they will surface 24,908 miles of track this year. Last year, as stated, the same roads said they surfaced 22,343 miles of track. Hence, their plans for 1966 call for surfacing 2,665 more miles of track than they did last year, an increase of 11.7%.

● **Money: How much more?** Most railroads are forecasting a continued uptrend in freight traffic in 1966. Presumably, it is this prospect that has motivated railroad managements to give the go-ahead signal for the enlarged M/W programs that have been projected. But this doesn't mean the rigid controls that have been maintained over M/W expenditures for so many years have suddenly been relaxed. Maintenance departments may get a little more money this year but, if past experience is a criterion, it won't be enough to pay for the programs now planned without further strenuous efforts to boost efficiency and perhaps to reduce "non-essential" work.

Effect of a wage boost

The new year had barely dawned before M/W officers were confronted with a major hurdle in the way of their efforts to keep costs down. This was the wage boost of nine cents an hour for non-operating employees that went into effect January 1, as the final installment of the 27-cents-an-hour increase provided in the current three-year contract with the unions. Traditionally, M/W departments have found that they cannot count on getting the increased money necessary to defray the cost of such increases. For their part, on the other hand, railroad managements have found that they can count on their M/W people to find ways of "absorbing" such pay increases. The fact that the present level of M/W&S expenditures of Class I roads is appreciably less than it was ten years ago, even though annual wages of M/W&S employees have gone up about 60% in the same period, is evidence enough that management confidence in the M/W departments is well-founded.

● **Continuing mechanization.** In the past, M/W departments have been able to keep costs under control by substituting machines for men and by reorganizing their forces to get the most out of available manpower. The fact is that the M/W departments of some roads have been reorganized not once but several times to meet the pinch imposed by higher wages. By these means average employment in the maintenance-of-way field has been cut about in half in the last 10 years. It is thus plainly evident that M/W officers today have a much smaller area in which to work in their efforts to keep costs down.

A number of railroads have not entirely exhausted the cost-saving potentials offered by the machinery now available. Such roads can be expected to push ahead with mechanization programs to take the slack out of their operations. Indeed, it is known that several such roads are contemplating heavy purchases of M/W machinery this year. Others that have fully mechanized their forces and otherwise kept them at a peak of efficiency can be expected to take advantage of improved types of machines to the extent that money can be obtained to purchase them.

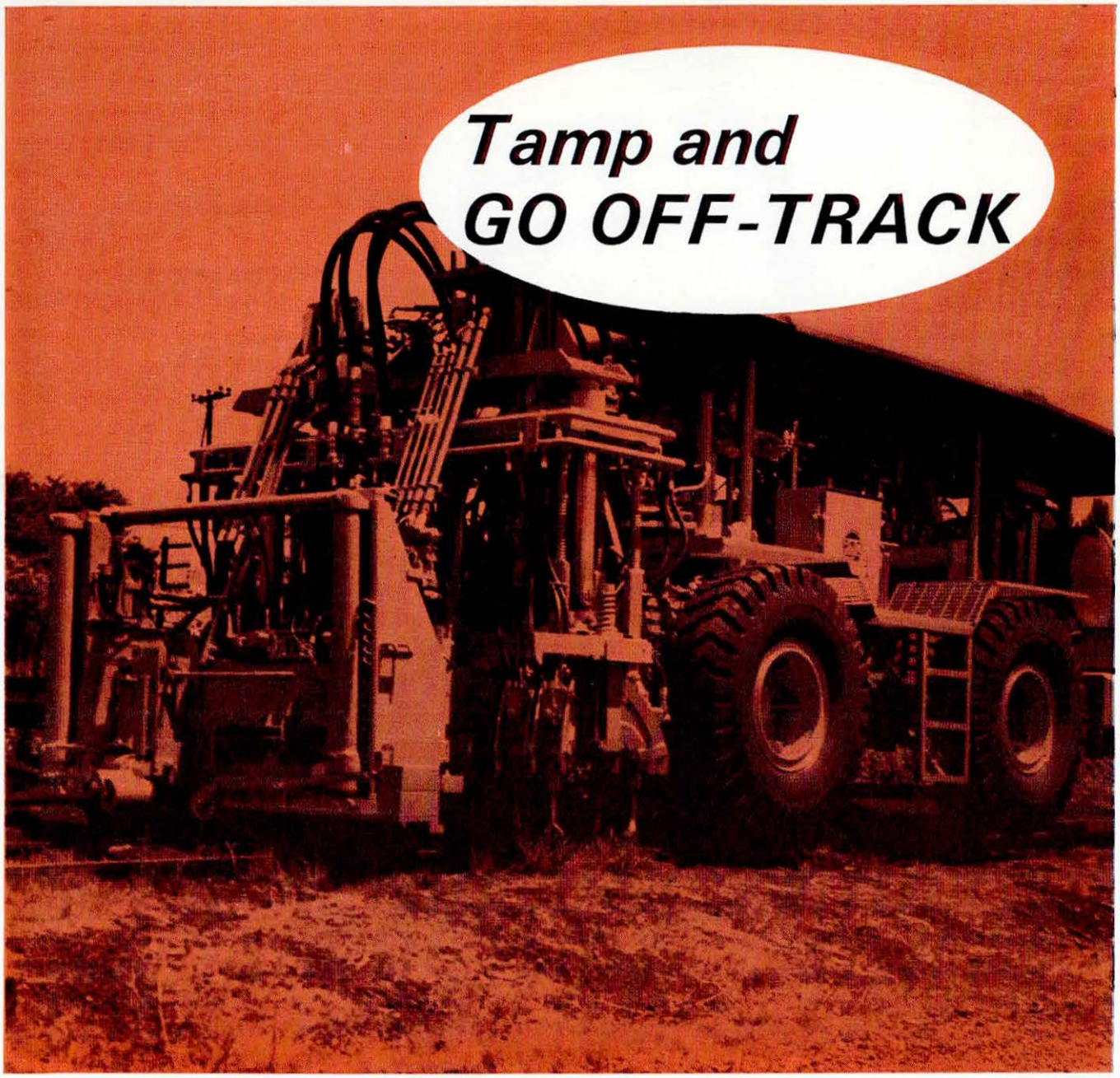
● **Advances in machinery.** The fact is that many M/W officers are still counting primarily on advances in machinery to help offset the increases in wages that are now apparently a built-in aspect of the economy. As their main hope they are clamoring for machines which, with only one operator, are capable of performing two or more operations. And they are getting them. The one-man machines now coming on the market that will "sight," raise, tamp and line the track are an example.

But the manufacturers are finding other ways of getting at the problem of boosting production per man-hour. One approach that came into the picture last year is to use magnetic codes to program track machines, thereby reducing the number of operators needed. Another is to hike the production of one-man production tampers by designing them to tamp two ties simultaneously. With these and other developments in mind it is evident that designers of track machinery are far from having exhausted the possibilities for substituting machinepower for manpower. The year 1966 is certain to see some startling new developments in this area.

In their search for means of reducing costs M/W officers—and the manufacturers — are not overlooking the economies to be found in track that needs less attention to keep it in line, surface and gauge. That's why most new rail laid today—and an increasing amount of the relay rail—is first welded into long strings.

Meanwhile, track engineers are following the investigations being made by various agencies, including the Department of Commerce, to determine if changes are needed in present U.S. track to adapt it to the higher speeds considered necessary for passenger trains operating in or between metropolitan areas. Significant developments can be expected in this area in 1966 and subsequent years. ■

Tamp and GO OFF-TRACK



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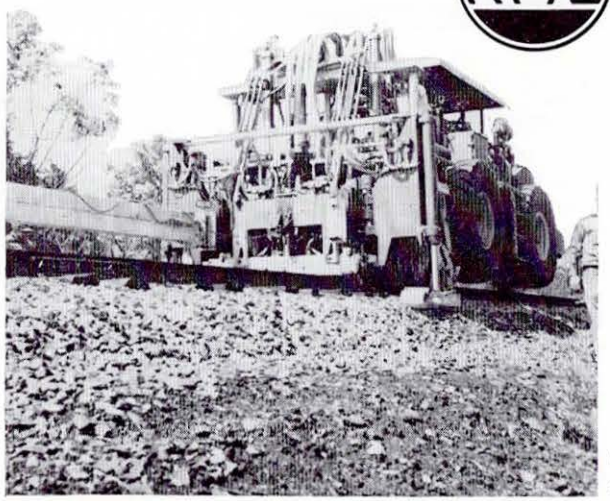

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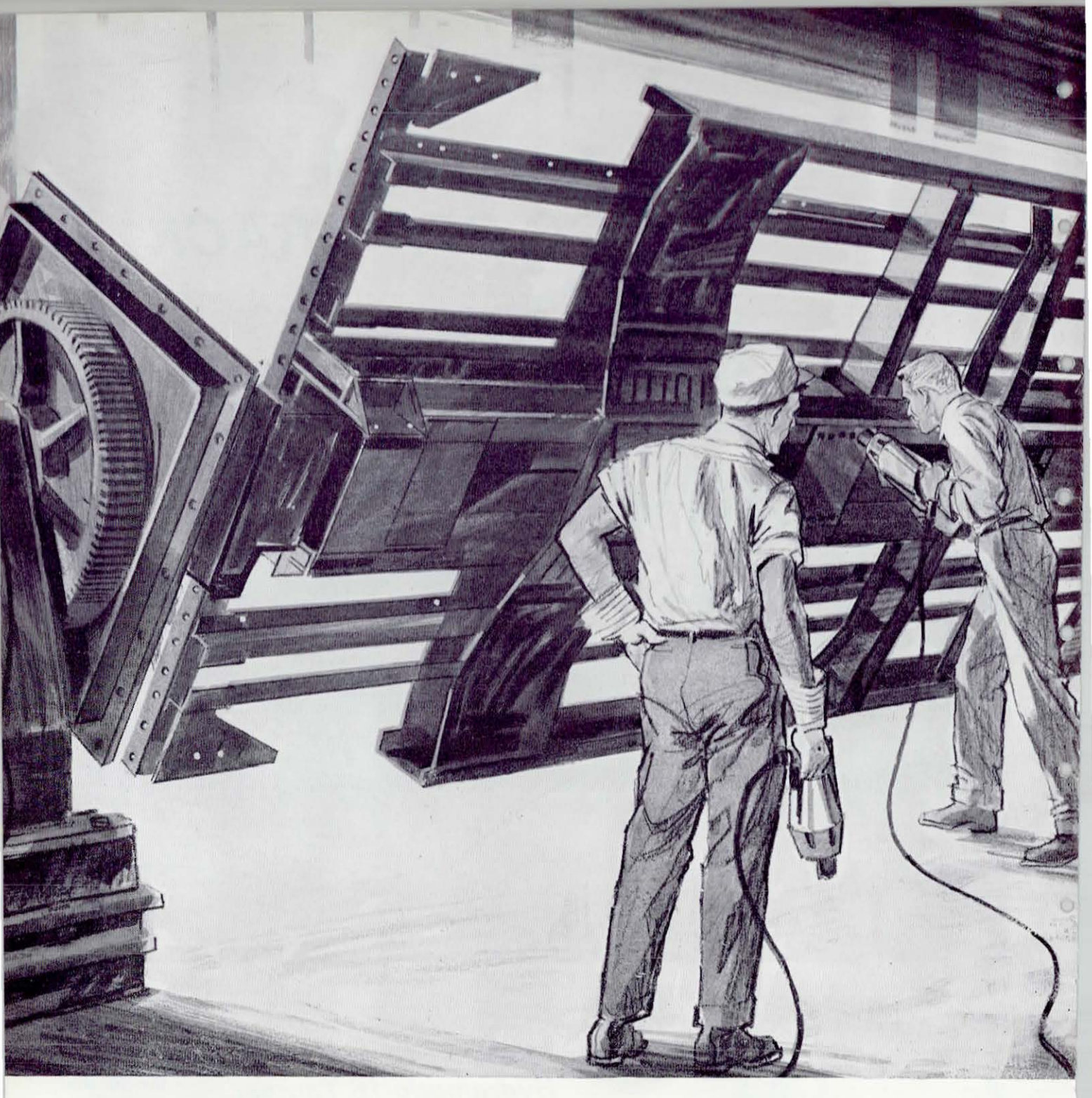

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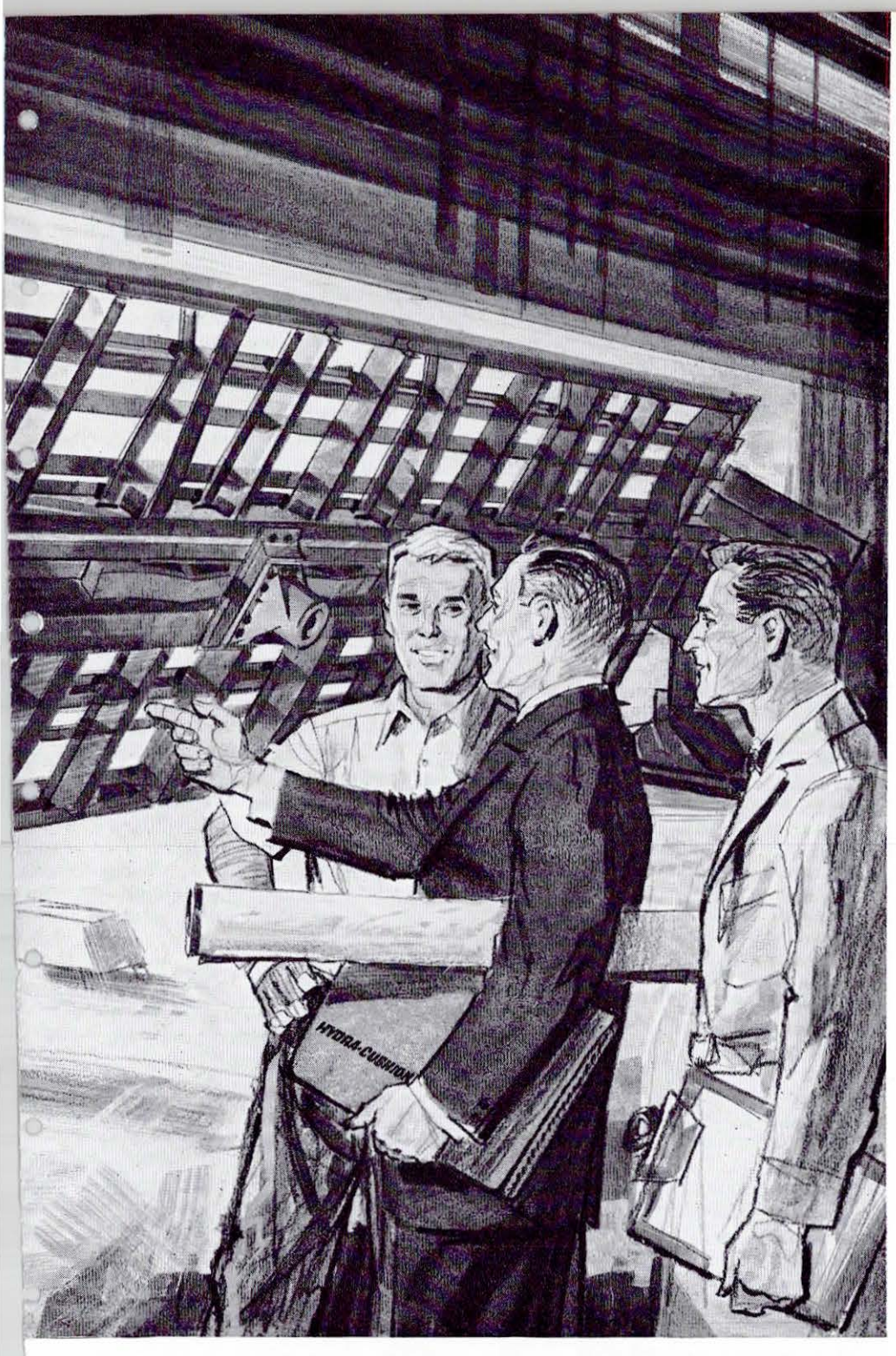

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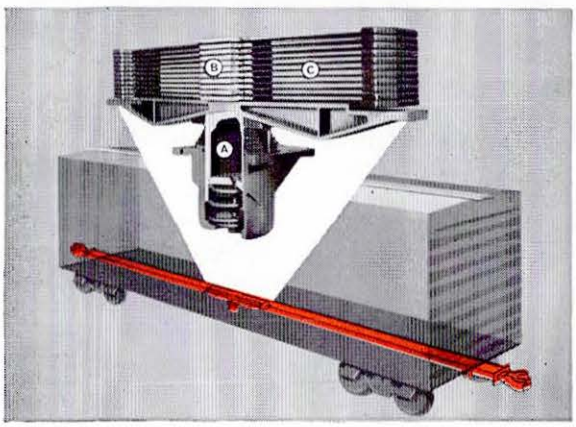

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More M/W mechanization is in the cards

(Continued from page 60)

penditures to operating revenues. For the first nine months of 1964 this ratio was 12.5%. For the comparable period of 1965 it was 12.1%.

How was it possible for M/W forces to hold dollar expenditures last year in such a narrow range in the face of increases in wages and in the amount of work done on the tracks? It is probable that the answer to this question has two aspects. On the one hand it is a well-known fact that strenuous efforts were made on most roads last year to boost the efficiency of M/W forces. Apparently these efforts were successful. At the same time it is doubtless true that some cutbacks were made in "less-essential" categories of work.

With 1965 now history what can be expected in 1966? Here are projections of activity for the year based on the railroads' own estimates of the work they plan to do:

- **New-tie renewals.** Class I railroads will insert a total of about 17,100,000 new ties in replacement in 1966. This will be an increase of 2,400,000 ties, or 16.3%, over the estimated figure for last year. If the estimate holds, new-tie renewals for this year will be greater than for any year since 1957, when they came to 22,082,225 ties.
- **Secondhand ties.** The use of secondhand ties will apparently undergo another slump in 1966. The same 45 roads that reported on installations of secondhand ties in 1965, estimated they will install a total of 368,505 such ties this year. This will represent a reduction of 275,560 ties, or nearly 43%, compared with the number of such ties inserted by these roads last year.
- **New-rail renewals.** This category of work will show a greater percentage gain this year than any other—and by a considerable margin. Estimates are that Class I roads will install 537,000 net tons of new rail in replacement in 1966. This would represent an increase of 137,000 tons, or 34.3%, compared with the estimated figure for 1965. Providing new-rail renewals come reasonably close to the estimate, they will be greater than for any year since 1957, when they came to 770,972 net tons.
- **Track surfacing.** The 46 railroads that submitted figures on this type of work estimate they will surface 24,908 miles of track this year. Last year, as stated, the same roads said they surfaced 22,343 miles of track. Hence, their plans for 1966 call for surfacing 2,665 more miles of track than they did last year, an increase of 11.7%.
- **Money: How much more?** Most railroads are forecasting a continued uptrend in freight traffic in 1966. Presumably, it is this prospect that has motivated railroad managements to give the go-ahead signal for the enlarged M/W programs that have been projected. But this doesn't mean the rigid controls that have been maintained over M/W expenditures for so many years have suddenly been relaxed. Maintenance departments may get a little more money this year but, if past experience is a criterion, it won't be enough to pay for the programs now planned without further strenuous efforts to boost efficiency and perhaps to reduce "non-essential" work.

Effect of a wage boost

The new year had barely dawned before M/W officers were confronted with a major hurdle in the way of their efforts to keep costs down. This was the wage boost of nine cents an hour for non-operating employees that went into effect January 1, as the final installment of the 27-cents-an-hour increase provided in the current three-year contract with the unions. Traditionally, M/W departments have found that they cannot count on getting the increased money necessary to defray the cost of such increases. For their part, on the other hand, railroad managements have found that they can count on their M/W people to find ways of "absorbing" such pay increases. The fact that the present level of M/W&S expenditures of Class I roads is appreciably less than it was ten years ago, even though annual wages of M/W&S employees have gone up about 60% in the same period, is evidence enough that management confidence in the M/W departments is well-founded.

- **Continuing mechanization.** In the past, M/W departments have been able to keep costs under control by substituting machines for men and by reorganizing their forces to get the most out of available manpower. The fact is that the M/W departments of some roads have been reorganized not once but several times to meet the pinch imposed by higher wages. By these means average employment in the maintenance-of-way field has been cut about in half in the last 10 years. It is thus plainly evident that M/W officers today have a much smaller area in which to work in their efforts to keep costs down.

A number of railroads have not entirely exhausted the cost-saving potentials offered by the machinery now available. Such roads can be expected to push ahead with mechanization programs to take the slack out of their operations. Indeed, it is known that several such roads are contemplating heavy purchases of M/W machinery this year. Others that have fully mechanized their forces and otherwise kept them at a peak of efficiency can be expected to take advantage of improved types of machines to the extent that money can be obtained to purchase them.

- **Advances in machinery.** The fact is that many M/W officers are still counting primarily on advances in machinery to help offset the increases in wages that are now apparently a built-in aspect of the economy. As their main hope they are clamoring for machines which, with only one operator, are capable of performing two or more operations. And they are getting them. The one-man machines now coming on the market that will "sight," raise, tamp and line the track are an example.

But the manufacturers are finding other ways of getting at the problem of boosting production per man-hour. One approach that came into the picture last year is to use magnetic codes to program track machines, thereby reducing the number of operators needed. Another is to hike the production of one-man production tampers by designing them to tamp two ties simultaneously. With these and other developments in mind it is evident that designers of track machinery are far from having exhausted the possibilities for substituting machinepower for manpower. The year 1966 is certain to see some startling new developments in this area.

In their search for means of reducing costs M/W officers—and the manufacturers — are not overlooking the economies to be found in track that needs less attention to keep it in line, surface and gauge. That's why most new rail laid today—and an increasing amount of the relay rail—is first welded into long strings.

Meanwhile, track engineers are following the investigations being made by various agencies, including the Department of Commerce, to determine if changes are needed in present U.S. track to adapt it to the higher speeds considered necessary for passenger trains operating in or between metropolitan areas. Significant developments can be expected in this area in 1966 and subsequent years. ■

1966 OUTLOOK

Labor: Relative stability may give way to debate and dispute

This could be a year of final resolution of the rules case and the adoption of realistic positions on economic issues. It will see a strong drive for tremendous wage-benefit improvements.

BY GUS WELTY, SENIOR EDITOR

WELTY

As the man says, down at the old ball park, "you can't tell the players without a scorecard." And 1966 may be one of those years in railroad management-union relations when a scorecard would come in real handy.

The problem that's likely to crop up big, before many months are ripped off the calendar, isn't on management's side of the bargaining table. It's on the side occupied by the organizations—specifically, the operating unions, whose ever-more-bitter rivalries have made a mockery of the "unity" which the ops once professed.

At this point, nobody can say for sure whether the in-fighting will eventually work out to anybody's advantage. But one thing does seem sure: With attempts being made to renew the work-rules controversy and with massive wage-and-benefit demands being built up by the ops, 1966 has to be regarded as another make-or-break year for the industry. And one of the complications may be that the unions, too, view the year as a critical one.

● **The Firemen fight on.** Obviously, the Brotherhood of Locomotive Firemen & Enginemen is barreling toward a point of no return. But problems facing the other four operating organizations are also complex, though they may be less starkly outlined.

Already, some observers are freely predicting the demise of the BLF&E. One newsman, for example, called the National Joint Board report on the fireman-off case "an epitaph to the railroad firemen's union." But, while there may be no great joy permeating BLF&E headquarters in suburban Cleveland, still nobody's reaching for the phone to call the undertaker.

On the surface, at least, the Firemen are behaving like a union which can lead from unparalleled strength. They're demanding restoration of almost all the jobs blanked since the award of Arbitration Board 282 went into effect in 1964. They're demand-

BIG QUESTION FOR '66 is the degree to which the BLF&E under President H. E. Gilbert, will maintain or can maintain the tough line it's taken thus far, in fighting the fireman-off case, and demanding sizable economic gains.

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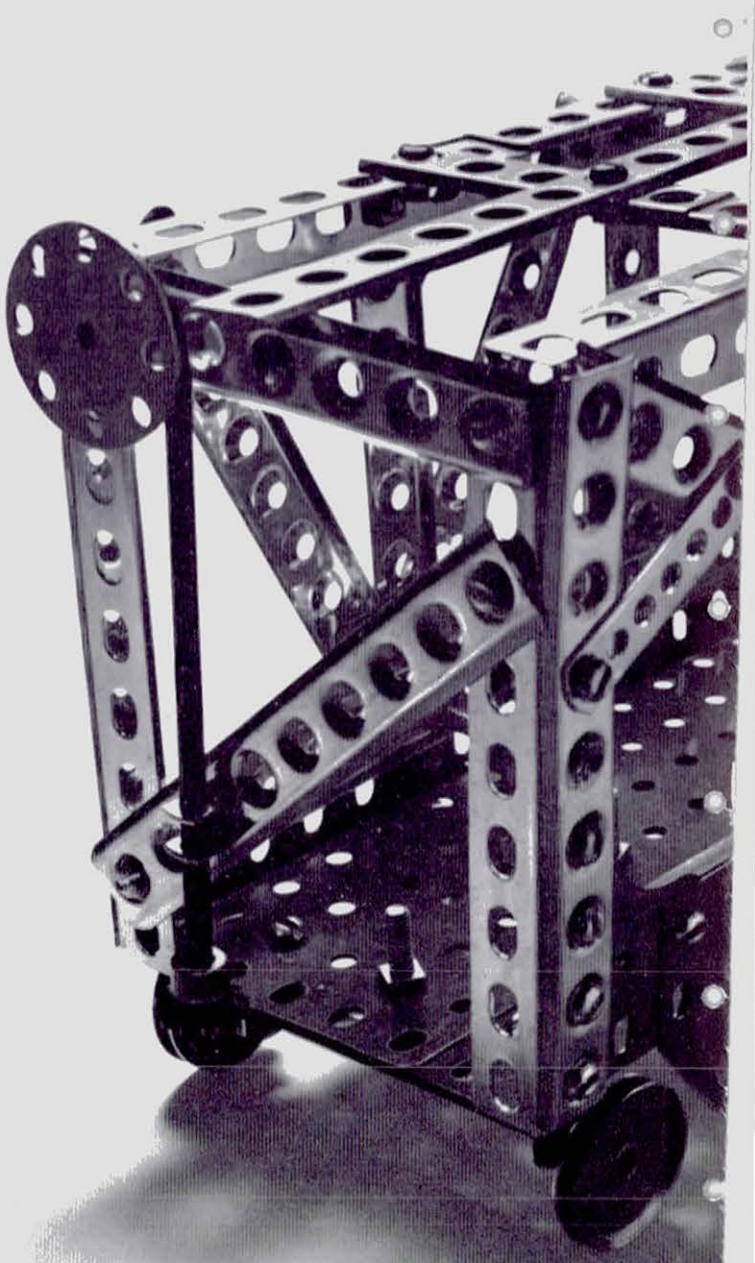

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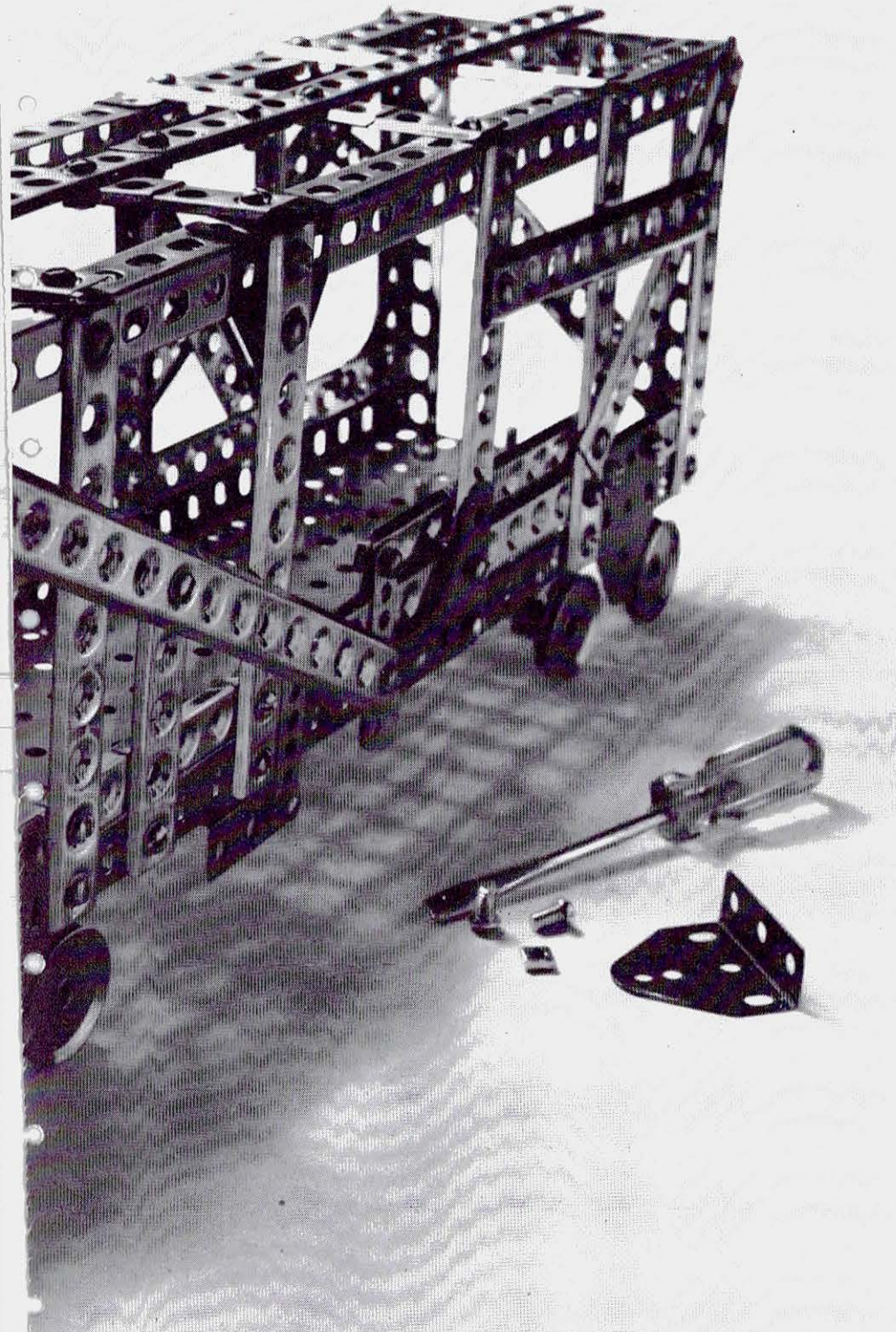

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Train-service-union hassle expected to go on

ing restoration to employment of men who were separated from service under the award. They're insisting that the Diesel Agreement of 1950—which requires employment of firemen on virtually all locomotives—becomes effective again at the end of March if no other agreement is reached between now and then. And they're demanding a 25% wage increase, a carrier-paid supplemental pension program and 10 other gains in a wage-benefit notice served to become effective early next month. All this leads to one question: What does the BLF&E imagine to be its source of strength? And it's in trying to answer that question that most observers get hung up.

● **Plus and minus.** On the positive side (for the union), there was a certain re-opening of the arbitration case before the Senate Commerce Committee last year, and the record is still open. But while the BLF&E hailed a committee statement as supporting the union position, most observers regarded it as a fairly general thing—hardly a cause for union celebration. And if this showing is discounted, then about the only display of strength and staying power by the organization in '65 came in representational battles—especially in the successful defense against an attempt by the Brotherhood of Locomotive Engineers to take the contract for firemen on Illinois Central.

On the negative side, the union is still faced with a job-loss problem—33,685 firemen were working in freight and yard service when the arbitration award went into effect, but the total dropped to 16,435 by last July 1 and will probably slide on down to 15,000 or under by March 31 of this year. This, of course, represents an absolute weakening of the union's cause—but it also complicates the continuing BLF&E effort to convince the public that firemen are needed: Obviously, railroads are getting along without them.

While the organization contends that removal of firemen was followed by a "substantial increase in railway train accidents," the report of the National Joint Board (signed by the carriers and the BLE) takes an opposite tack. Citing a study made by the Engineers organization, the board found no reported instance "where an accident or casualty could be authentically attributed to the fact that a fireman was not employed on an engine involved." The board said it uncovered "no relationship between increases in accident and casualty rates and the elimination of firemen" and noted that "the rate of increase has dropped as the percentage of operations without firemen has grown."

● **Who stands with the Firemen?** Finally, the BLF&E is facing serious problems in the attitudes and positions of the people around it—on both sides of the table. On one side, the carriers are standing absolutely firm. J. E. Wolfe, chairman of the National Railway Labor Conference, has declared several times that "we are not going to restore firemen"—and each time he says it, there seems to be more determination to his expression. So the BLF&E can look for no reversal from the railroads—and that brings up the question of how much backing it can look for from the other rail unions.

Granting the determination of both carriers and Firemen and assuming that things run their course without outside intervention, the point could come where the BLF&E decides on a "peaceful withdrawal from service." Depending on the situation at the time, some form of third-party action—possibly through the courts—could be taken to head off an actual walkout. By the same token, a strike could, in fact, begin—under certain circumstances, including surprise action.

Strike possibility remote

At present, a strike has to be regarded as an extremely remote possibility—and there are signs that other rail unions may be hoping it stays that way.

Realistically, the odds would have to favor the honoring of a BLF&E picket line, if any walkout should fall within the strict definitions of a legal strike. The tradition among organized labor is all on the side of not crossing the line (and it's been so strong that one union spokesman explains his organization's failure to hold representation rights on a certain major property with the comment that "we scabbed a strike there sometime back in the 19th Century, and they still remember").

● **A lost cause?** With the BLF&E, however, there are aspects that may change the odds. First, there's the bitterness between the Firemen's organization and the BLE—and it seems to be growing deeper almost daily. Second, there seems to be a fairly broad conviction among the other organizations that the fireman is off for good, and that the BLF&E is committing itself to a lost cause.

On the day that the National Joint Board wound up its tasks (with the carriers and the Engineers approving a report and the BLF&E issuing its own statement), there were several comments which touched on this touchy matter of union support for unions.

For example: A BLE officer, asked about support in the event of a BLF&E walkout, noted first that the Engineers are an independent organization and that they have contracts with the carriers that must be honored. As for the action the BLE would take if the Firemen struck: "We'll cross those bridges when we come to them."

One of the BLF&E's top officers was asked a variation of the same question—as to whether the Firemen think they'd get support. His reply was rather carefully phrased—to the effect that the BLF&E has faith in the trade-union spirit of the rank-and-file employees and believes that they would honor picket lines.

● **How about the BRT?** All this is not to say that the Firemen's union will have the spotlight all to itself in '66. The three train-service organizations are also involved in the award of Arbitration Board 282. And these unions—the Brotherhood of Railroad Trainmen, Order of Railway Conductors & Brakemen and Switchmen's Union of North America—are all expected to be in with new wage-benefit demands, as is the BLE.

In addition, most observers expect the inter-union hassling among the train-service trio to continue. They engaged in quite a few cuffing matches in '65, in representation disputes all over the country—and the BRT found the two smaller unions extremely worthy foes.

One big question at the moment is what the Trainmen may be working toward on the issue of crew-consist as it's been affected by the arbitration award. For the BRT, the award expiration date comes up late this month—and while BRT President Charles Luna hasn't kicked up a public storm on the subject, it isn't likely that he'll let the date pass without notice.

Luna's Trainmen have worked out consist agreements in the East, providing for 1-and-2 crews—one conductor, and two brakemen. But the union hasn't been able to extend these arrangements into western or southeastern territory, and it's a situation that leaves Luna less than happy.

● **Who gained what?** And, while the Trainmen haven't made a plan of action public—aside from "we're-proceed-

(Continued on page 114)

1966 OUTLOOK

Legislation key is LBJ

The railroads' legislative program will succeed only if it gets the Administration's 'must' label, plus lobbying of the LBJ-all-the-way variety.

BY WALTER J. TAFT, WASHINGTON EDITOR

TAFT

Top priority items of the railroads' legislative program are likely to become law this year only if President Johnson makes it a time for implementing his promise to the industry. That promise is to see that railroads get what they want in the way of relief from inequities and obsolete regulation.

The railroad program will be topped again by calls for more rate-making freedom, and for the imposition of adequate charges for use of publicly-provided transport facilities by water carriers, truckers and airlines. Also high on the railroad list will be proposed tax legislation, including that contemplating liberalized investment-credit arrangements and relief from inequitable local taxation.

President Johnson's promise was made last Sept. 30. It came after he signed into law the act authorizing the Department of Commerce to continue its studies of high-speed ground transportation of passengers with initial demonstrations on the Pennsylvania's Washington-New York line.

● **What LBJ promised.** Following White House ceremonies in connection with this signing, some of those on hand, including the railroad executives and leaders of railway labor unions, were invited to meet privately with the President. At that meeting, LBJ said he thought many of the country's transportation problems "are the government's fault." He added: "If regulations of 50 or 100 years ago are hurting the railroads, tell me about it, tell me what you want, and we'll get it for you."

The President went on to suggest that such proposals be submitted to him within 60 to 90 days. That made the end of last year the deadline. For railroad management, the AAR has followed through on that basis, submitting the industry's proposals to the White House staff.

While the pitch of the President's talk indicated that he might have been thinking principally about passenger services, the AAR interpreted his invitation as broad enough to be considered a call for presentations supporting the industry's whole program. Moreover, a previous Presidential statement had announced that transportation policy proposals will be part of the "substantative legislation" on the Administration's 1966 program.

● **Much advice.** Advice other than that of the AAR has gone to the White House, of course. Some of it came from the ICC. And much of it came from the Department of Commerce where the tempo has been stepped up since Alan Boyd took over as undersecretary for transportation.

If 1966 is not to become the Administration's year for making good on the Presidential promise, the railroad program will get nowhere. That was its fate last year when mere Administration endorsement was not enough. It needed then, as it needs now, the Administration's "must" label, plus White House lobbying of the LBJ-all-the-way variety.

● **Rate-freedom proposal.** The AAR presentation to the White House has not been made public. It is understood, however, that its rate-freedom phase now calls for further liberalization of the Interstate Commerce Act's general rate-making rule. That is Section 15a. Its latest liberalization is the so-called rate-freedom provision now in Section 15a(3) which was added by the Transportation Act of 1958.

This was supposed to have proscribed umbrella rate making by prohibiting the ICC from holding a rate to a particular level to protect the traffic of a mode of transportation other than the one proposing a rate cut. Unfortunately for the railroads, however, the Commission has found a softener in the provision's call for "due consideration to the objectives of the national transportation policy."

Relying on this call, the Commission often condemns competitive rates proposed by railroads. And it has made fully-distributed costs its general basis for identifying the low-cost carrier in a competitive-rate case. It is the railroads' position that fully-distributed costs have no proper role in competitive rate cases. They are fighting for the right to publish any competitive rate which is above out-of-pocket costs and compensatory in the sense that it improves net earnings.

● **'Dreadful' ICC rate ruling.** A recent setback in this fight firmed up the railroads' determination to convert their rate-freedom proposal into the call for further liberalization of Section 15a. The setback came in I&S No. 8038 when the Commission condemned railroad rates published to bid for shipments of ingot molds moving over truck-water routes from Pittsburgh, Pa., to Steelton, Ky.

The condemnation reversed the Commission's Division 2 which cleared the rates and thus undertook to break new ground in the field of rate freedom. The Division found an exception to the full-cost basis justified because the water carriers (the low-cost mode on that basis) were voluntarily maintaining their rates below their full costs (RA, Dec. 13, 1965, p. 12).

The reversal drew a dissent from Commissioner Howard G. Freas. He said the Commission had abandoned compliance with Section 15a(3) to resume its pre-1958 practice of "indulging in the arbitrary allocation of traffic." Freas added that the decision invites "both reversal in court and legislative action." Informed railroad men agree. They call the decision a "dreadful" one which "points up the need for corrective legislation."

(Continued on page 76)

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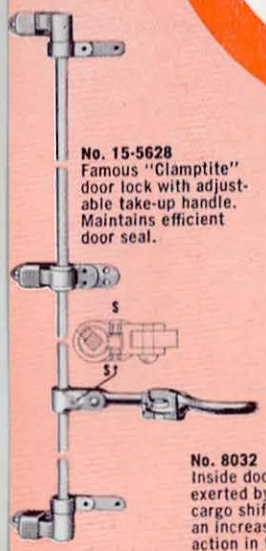

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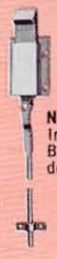

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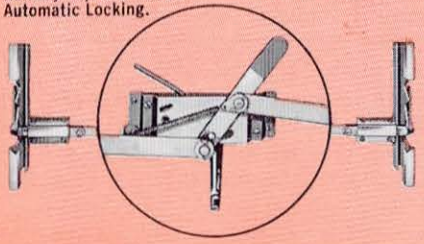

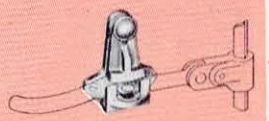

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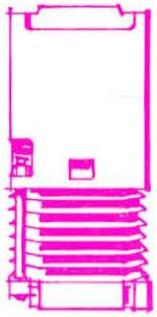

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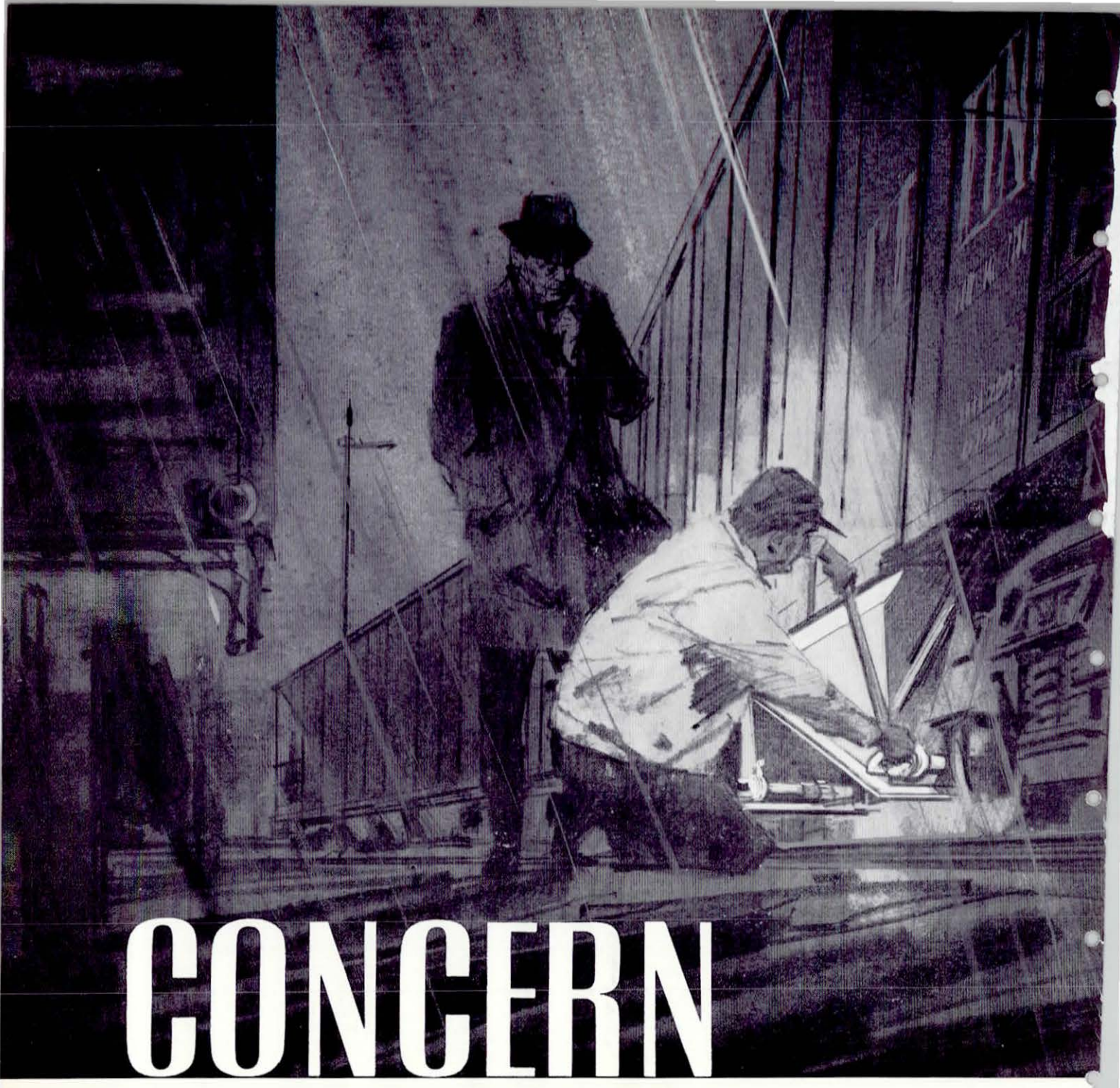

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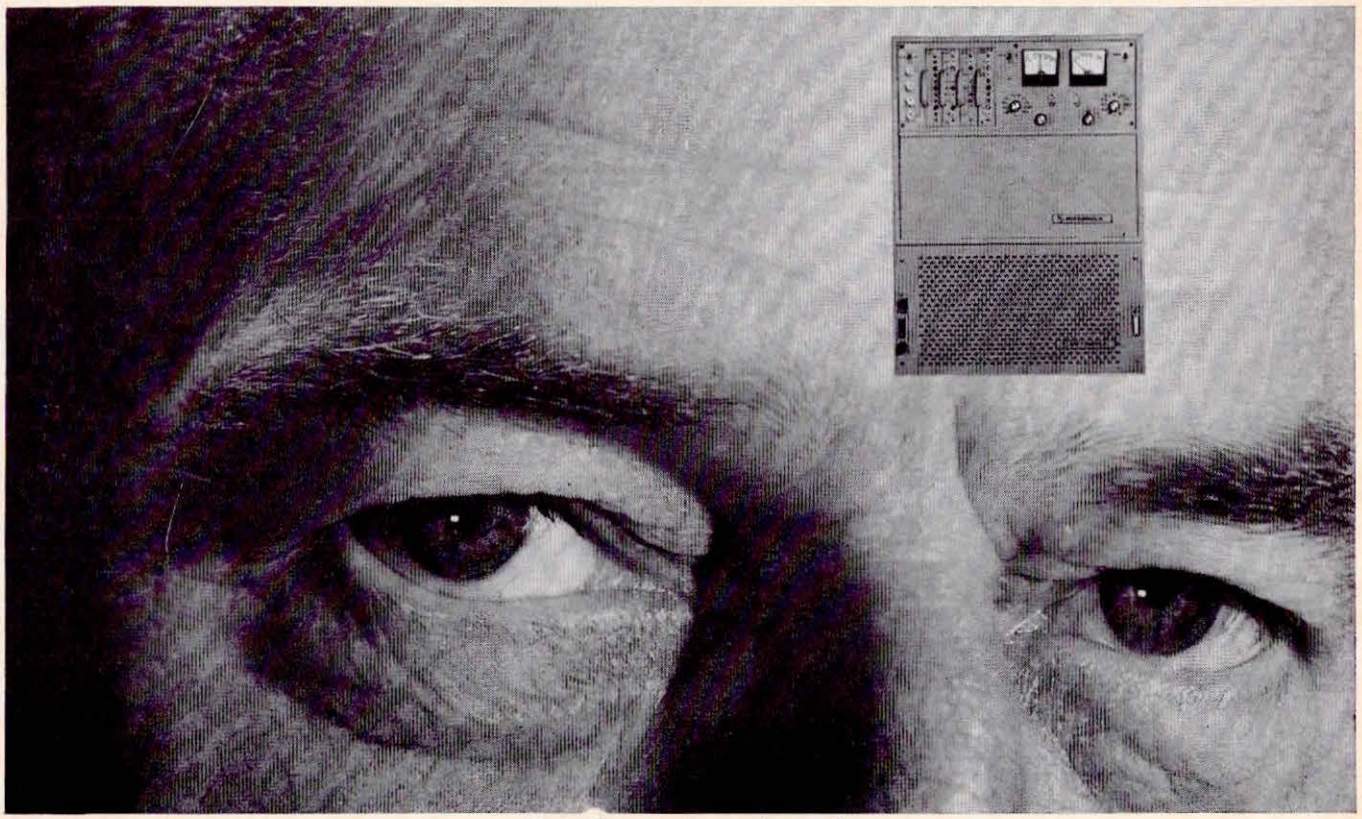

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President might push user-charge proposals

(Continued from page 69)

● **Departure.** This undertaking to amend Section 15a is a departure from the industry's rate-freedom policy of recent years. That policy previously adopted the Kennedy-Johnson rate-freedom proposals. These would end ICC powers to fix minimum rates for the transportation of commodities in bulk by rail and truck, and for rail and water transportation of agricultural and fishery products. Made first by the late President Kennedy in his Transportation Message of April 5, 1962, these proposals were designed as an approach to equalization of competitive opportunities under present conditions which include the Interstate Commerce Act's bulk-commodity and agricultural exemptions. These, in turn, leave water transportation of commodities in bulk and truck transportation of agricultural and fishery products free of all regulation.

The railroads' disposition to abandon this does not mean that they would not continue to support it if it remains the program of the Johnson Administration. At the same time they note the program's failure to get anywhere in four years. And that is a major factor in the current preference for the revised-rate-rule approach. The railroads also point out that rate freedom contemplated by the proposed minimum-rate legislation would be limited. It would not extend to situations like that of the Ingot Molds case where the traffic at stake was not a bulk commodity.

Another factor in the changed position is the failure of the minimum-rate proposals to win shipper support. Congressional sponsors of minimum-rate bills have insisted that procedures for making rates on the deregulated commodities be deprived of the antitrust immunity afforded for carrier ratemaking generally. That is the immunity provided by the Bulwinkle Act, provisions of which are now in Section 5a of the Interstate Commerce Act. While railroads reluctantly agreed to support minimum-rate legislation on the no-immunity basis, shippers have remained adamant in their demands for continuance of full Bulwinkle-Act clearance. That's the position of the National industrial Traffic League, whose support or opposition could be a major factor in determining the fate of such proposed legislation.

● **User charges.** As to user charges, the proposals submitted to Congress last year by President Johnson are supported by railroads as steps in the right direction. These proposals occupied a substantial part of the President's May 17, 1965, tax message which also recommended reduction and eventual repeal of various excise taxes. The excise-tax proposals got priority, and legislation to implement them was enacted promptly.

The user-change proposals are still pending before the House Committee on Ways and Means. The Committee plans to hold hearings on them, and that could take a lot of time. On the other hand, Administration spokesmen, notably Undersecretary of Commerce Boyd, have been saying things which indicate that the President might give these proposals a "must" label. Moreover, revenue considerations will be a factor in view of the expected increase in the cost of the Vietnam war.

● **Proposed levies.** The Presidential proposal is that waterway user changes be instituted with a two-cents-per-gallon tax on vessel fuel. The proposed levies on highway users would raise to 7 cents per gallon (from 4 cents) the tax on diesel fuel, increase from $3 to $5 per 1,000 lb the truck-use tax which applies to trucks weighing more than 26,000 lb, and raise the tax on tread rubber from 5 to 10 cents per lb.

Jet-fuel tax recommended

For commercial aviation, the President recommends a two-cents-per-gallon tax on jet fuels, and continuation of the like levy on aviation gasoline. He also proposes a 2% tax on air-freight bills. His other recommendation for continuance of the 5% air-fare tax was carried out by the act which implemented his excise-tax proposals.

● **Bid for tax equity.** The bid for relief from inequitable local taxation would be implemented by legislation condemning such assessments as undue burdens on interstate commerce. Twelve bills proposing such legislation have been introduced in the House, so the railroads feel that this movement is gaining momentum. The test would be whether property of interstate carriers is assessed higher local taxes than other commercial property in the same areas. What is regarded as an important feature of the pending bills is their provision for jurisdiction in federal courts.

The liberalized investment-credit arrangements sought by railroads would leave the credit at 7% of the cost of new facilities and equipment, but it would ease limitations on use of the credit. Present law limits the credit to $25,000 plus 25% of the amount by which the involved tax liability exceeds $25,000. It works this way: A $1,000,000 investment creates a credit of $70,000. If the year's tax liability were only $125,000, however, the deduction would be limited to $50,000, i.e., $25,000 plus 25% of $100,000.

● **Investment-credit liberalizer.** This is mitigated somewhat by carry-forward arrangements whereby any balance of a 7% credit (like the $20,000 in the foregoing example) can be used in subsequent years. The railroad proposal is to raise the limit to $100,000 plus 50% of the tax liability in excess of $100,000, and to make the carry-forward period seven instead of five years. There have been indications that the Treasury favors at least some liberalization, so the railroads are hopeful.

They are also hopeful of convincing the Treasury that they should be permitted to depreciate or amortize such property as grading and tunnel bores. This is a bid for modification of depreciation guidelines issued by the Treasury for all industry in July 1962. Bills to implement the bid have been introduced in Congress, but a drive for their enactment has been delayed pending outcome of negotiations with the Treasury.

Another income-tax proposal on the railroad program is a bid for authority to amortize reorganization expenses. The proposed legislation here would not confine the writeoffs to costs of reorganizing bankrupt roads. It would also permit writeoff of costs of merger studies and expenses involved in consummating mergers. These expenditures are now capitalized.

● **Diversification still deferred.** The remaining item on the four-freedoms program launched by the railroads several years ago is the call for diversification rights. That means freedom to operate other forms of transport, and this is still vigorously opposed by truckers and water carriers to whom the proposed freedom would also apply.

Although it is not a 1966 priority item, railroads think diversification is the best way to promote transport coordination. They hope it may be seen that way by Undersecretary of Commerce Boyd, who has been calling for more coordination. In any event, they hope Boyd has not been sold on the idea of giving the ICC power to compel railroads to enter through-route and joint-rate arrangements with truckers. Railroads have long opposed any such com-

(Continued on page 119)

1966 OUTLOOK

Merger pressures stronger than ever

ICC seeks an approach that will speed the merging process and protect all concerned interests.

BY JOHN D. MITROS, WESTERN EDITOR

MITROS

Many experts thought 1965 was going to be the big year of the modern merger era. It didn't turn out that way. There was more news than action on the merger front last year.

Not that the merger fever abated. If anything, the pressures behind merger applications (and mergers still in the exploratory or conversation stage) are stronger than ever before. Improvements in carrier capabilities stemming from streamlined work forces, upgraded equipment fleets, more successful commercial operations and techniques, and especially from the vastly improved management-control possible with modern communications and computer systems, are making economies possible with mergers attractive to more and more railroads.

End-to-end mergers, by reduction of switching and terminal costs relative to line-haul traffic, can accomplish wonders for balance sheets. Merger of properties that overlap benefit from some of

The Merger Situation at a Glance

In the East

Pennsylvania-New York Central	Favorable examiners' report issued March 29, 1965. Exceptions filed. Before the full Commission. Decision expected shortly.
Chesapeake & Ohio-Baltimore & Ohio control of Western Maryland	Favorable examiner's report issued Aug. 3, 1965. Exceptions filed. Before the Commission.
Norfolk & Western—Chesapeake & Ohio merger	Application filed Oct. 11, 1965. No hearings scheduled yet.
Norfolk & Western—Nickel Plate merger	Merger approved July 13, 1964. Petitions for inclusion filed by Erie Lackawanna, Delaware & Hudson, and Boston & Maine. Proceeding reopened to consider inclusion of three roads Nov. 8, 1965. Hearings scheduled April 20, 1966.

In the Southeast

Atlantic Coast Line-Seaboard Air Line	Approved Dec. 13, 1963. District Court in Jacksonville remanded case to ICC May 1965. Appeal by ICC and applicants to Supreme Court. Court remanded case to Jacksonville Court Nov. 22, 1965.
Illinois Central-Gulf, Mobile & Ohio	No application filed yet.
Illinois Central control of Louisville & Nashville	Requested as condition of ICC approval of ACL-SAL but not allowed by ICC. Deferred pending court action on ACL-SAL.

In the West

C&O control of CSS&SB	Filed March 24, 1965. ICC hearings were held Jan. 10.
Sante Fe control of Western Pacific	Denied by ICC Feb. 3, 1965
C&NW merger with Chicago Great Western and Milwaukee	In Great Western case, briefs were filed Oct. 22, 1965. Awaiting examiner's recommended report. In Milwaukee case, no application filed yet.
Great Northern, Northern Pacific and Burlington merger	Favorable examiner's report issued Aug. 24, 1964. Awaiting full Commission decision.
Missouri Pacific control of Chicago & Eastern Illinois	Approved by ICC March 8, 1965. Preliminary injunction issued by Chicago District Court upon complaint of Illinois Central. Nov. 16, 1965.
C&NW control of Rock Island; Union Pacific control of Rock Island	C&NW application filed July 5, 1963. UP application filed Sept. 10, 1964. Both proceedings delayed by proxy battle. Consolidated for hearing Sept. 23, 1965. Hearings scheduled to begin March 7, 1966.
Missouri Pacific-Texas & Pacific	No action taken on application filed in 1964 pending settlement of shareholder court suit over MP class B stock.
Southern-Frisco merger	Study under way. No application filed yet.
Sante Fe-Frisco merger	Study terminated with no action likely.

Tax changes could increase merger-plan tempo

that and also benefit from attractive economies achieved in elimination of duplicate facilities.

Clarification of Interstate Commerce Commisssion and Administration guide lines for proposed mergers is enabling industry officers to appraise merger prospects much more realistically. The time between carrier proposals and marriage, however, is becoming a hazard to exchange values posted when merger banns are published. Now, should tax laws be amended to allow merging properties to carry forward losses incurred by weak properties for tax purposes (as N&W and C&O are proposing as a condition to their taking in Erie Lackawanna, Central of New Jersey, Reading and Boston & Maine), the merger march could very well become a race. Behind it all, of course, is an industry-wide push for efficiency that seems destined to simplify and rationalize the U.S. railroad map.

• **Action in 1965 was like this.** There were two approvals and one disapproval that got through the ICC's slowly grinding merger mill last year. There was also an important Supreme Court decision in the Atlantic Coast Line-Seaboard merger case.

—On Feb. 3 the Commission caused a flurry of anxiety in railroad circles (and joy in a few other places) when it turned thumbs down on Santa Fe and Southern Pacific bids for control of Western Pacific.

—Exactly a month later, on March 3, the ICC surprised almost no one when it approved parent Sante Fe's bid for consolidation with its Gulf lines—the Panhandle & Santa Fe, the Gulf, Colorado & Santa Fe and the Kansas City, Mexico & Orient.

—A few days later, on March 8, the Commission gave a green light to Missouri Pacific for control of the Chicago & Eastern Illinois. Illinois Central, determined to protect its Louisville and St. Louis interchanges, promptly tied the case up in court.

—On Nov. 22, the Supreme Court ruled that the ICC did not have to give anti-trust consideration when ruling on a merger and remanded the ACL-SAL case (their merger was approved late in 1963) back to the District Court of Jacksonville, Fla.

• **Giant mergers shape up.** That was the extent of the action in mergers last year, but other merger news in 1965 was nothing short of sensational:

—On March 29 the ICC issued a favorable examiners' report on the biggest merger of them all, Pennsylvania-New York Central.

—The merger story of the year came last Oct. 11. Norfolk & Western and Chesapeake & Ohio announced they wanted to form an N&W-C&O system to compete with PRR-NYC in the East. The proposed system (which would include B&O and Western Maryland and also Delaware & Hudson, Erie, Reading, Central of New Jersey and Boston & Maine if certain conditions are met) would stack up against PRR-NYC like this: The new system would have the same revenues ($1.8 billion) as PRR-NYC; it would have $5.9 billion in assets against PRR-NYC's $6 billion, and it would operate 26,460 miles of railroad compared with PRR-NYC's 23,271 miles.

C&NW wins a round

As the year 1965 ended, Chicago & North Western won a round in its three-year-old fight with Union Pacific for control of the Chicago, Rock Island & Pacific. The Commission authorized C&NW to issue new certificates of deposit for Rock Island common shares or for UP certificates of deposit which RI shareholders had received in exchange for their stock. C&NW, in announcing the move, said that acceptance of the certificates by RI shareholders would irrevocably commit C&NW to its control offer and would enable RI shareholders to accept whichever control bid is approved by the Commission.

• **What's the outlook?** Despite the sensational developments, however, it is a fact that no railroad merged with another in 1965. Betrothed carriers, more than ever before, must feel as though they're marching through molasses on their way up the aisle at the Commission. The ICC itself, with no let-up in sight from the merger work load, is fiddling around with plans to streamline the slow, involved procedures that have to be followed by merging properties. The Commission's search for an approach that will speed the work and still adequately safeguard the interest of public, shippers, communities and labor must have the heartfelt sympathy of everyone involved.

In other ways, though, there is continuing improvement in the merger outlook. The ACL-SAL ruling from the Supreme Court last November clarifies the anti-trust problems that can arise in the present and future mergers. Further clarification of ICC and Administration guidelines that came about as a result of the approval of ACL-SAL in the first place (a merger of two money-making roads) has improved the outlook for mergers that were all but unthinkable a few years ago.

• **Merger action in 1966.** Informed observers think there will be a quickening in the Commission's handling of merger cases this year. They think the 1966 merger picture could shape up like this:

—The Commission will approve PRR-NYC early this year.

—A decision on GN-NP-CB&Q-SP&S will follow.

—A favorable examiners' report will be given for C&NW-CGW.

—C&NW-Milwaukee will file for permission to merge.

—ACL-SAL will get out of the courts and into active consolidation.

—C&O-B&O control of WM will be approved.

—C&O will get the nod for control of Chicago South Shore & South Bend now that Monon has dropped opposition to that merger.

• **Other merger developments.** Also possible, but somewhat less likely in some instances, are these developments: It is possible there will be an examiner's report on the UP and C&NW bids for Rock Island late in the year. It is possible that agreement between N&W-C&O and Erie, D&H, Reading, CNJ and B&M for inclusion in the N&W system will greatly simplify the sticky situation of railroads in New England and the East. NYNH&H, presumably, will be taken into the PRR-NYC system when that merger gets the go-ahead from the ICC.

Another possibility for 1966 is that settlement of the court case brought by Missouri Pacific's Class B shareholders could open the way for action on the MP-T&P merger application filed in 1964.

• **Two new factors.** Recent marriages and more rapidly changing commercial circumstances are likely to be factors in the merger movement from now on out. Most roads achieved their present size with mergers and consolidations of one sort or another originally. The modern merger era, though, has mainly involved carriers whose systems were shaped prior to World War I. Now, with 23 mergers approved by the ICC since 1957 (when the Commission approved Louisville & Nashville's merger with Nashville, Chattanooga & St. Louis), many of the railroads applying for ICC permission to merge are carriers who have only recently completed mergers with other railroads.

The arithmetic for setting merger

(Continued on page 114)

BY BURTON N. BEHLING, VICE PRESIDENT, ASSOCIATION OF AMERICAN RAILROADS, AND DIRECTOR, BUREAU OF RAILWAY ECONOMICS

1965 REVIEW RAILWAY OPERATIONS

HIGHLIGHTS

The year 1965 was one of continued progress for the railroads in many important respects, as described in the following sections of this annual review. The advances made were associated with a high-level economy that set new records in production and incomes.

Developments in the railroad industry continued to demonstrate in a classic fashion the constructive effects of increased volumes of freight traffic stimulated in part by more attractive rates and services made possible by cost-reducing technological and organizational improvements and more efficient utilization of manpower. Significantly, this fortunate combination of factors also resulted in 1965 in a further improvement of the still relatively low earnings of the railroads.

● **Freight charges reduced.** Railroads have succeeded in reducing the average level of their freight charges by 14% since 1958, while the Consumer Price Index has risen almost 10% over this same period. Such results of record reveal the constructive nature of the course the railroads have set for themselves to cope as effectively as they can with competitive forces encountered on every hand in present-day transportation. These accomplishments also represent a significant and most timely contribution in efforts to control inflationary forces now pressing more insistently upon the economy.

It would be expected that such achievements by the railroads would have the universal approval of all those concerned with advancement of the broad public interest. Yet the situation still remains clouded by incongruous regulatory edicts involving application of the fallacious doctrine that some arbitrary computation of "fully-distributed cost" must determine the floor for competitive rate making by the railroads in intermodal situations.

The economy seems poised for further gains in 1966, subject to uncertainties regarding the conflict in Vietnam and to increasing inflationary pressures that may result from an overheated economy operating close to its efficient capacity. There is basis for the prevalent view that real economic gains (apart from inflationary factors) in 1966 may be somewhat smaller than those experienced in 1965.

Railroad freight traffic can be expected again to keep pace with general expansion of the economy, indicating an increase in revenue ton-miles of perhaps three to five per cent. Whether this would produce further improvement in net income depends, of course, on the effective control of labor and

1965 REVIEW

Financial results improved again

material costs. With an unusually large backlog of freight cars on order, railroad capital expenditures are expected to continue at or above the high 1965 level, but further increases may be tempered by intensified measures to achieve better utilization of the expensive modern types of railroad rolling stock.

• **Merger outlook.** During 1966, decisions seem likely to be reached in several of the pending railroad merger proposals now before the Commission or in the courts.

The past year did not produce legislation to correct long-standing defects in basic national transportation policies, although in particular reference to passenger transportation a potentially important step was taken with enactment of the High-Speed Ground Transportation Act.

It may be hoped that 1966 will bring forth legislation to effectuate President Johnson's recommendation in January 1965 that "if the nation is to have a truly efficient system of transportation, we must revise the traditional Government programs of regulation and operating subsidies to place greater reliance on the forces of free competition."

Both gross revenues and net earnings of Class I railroads in 1965 registered increases for the fourth successive year, but neither gross nor net regained the levels of the mid-'50's. Estimated results for the year, based on returns for the first 6 months and estimates for the fourth quarter, include the following:

—Total operating revenues of $10.1 billion, up 3% over 1964 and the highest since 1957's total of $10.5 billion.

—Net railway operating income (net from transportation activities, after taxes but before fixed charges) of about $925 million, up some 15% over 1964 and the highest operating net since 1956's $1,068 million.

—A rate of return of 3.55% on net investment in transportation property, up from 3.16% in 1964.

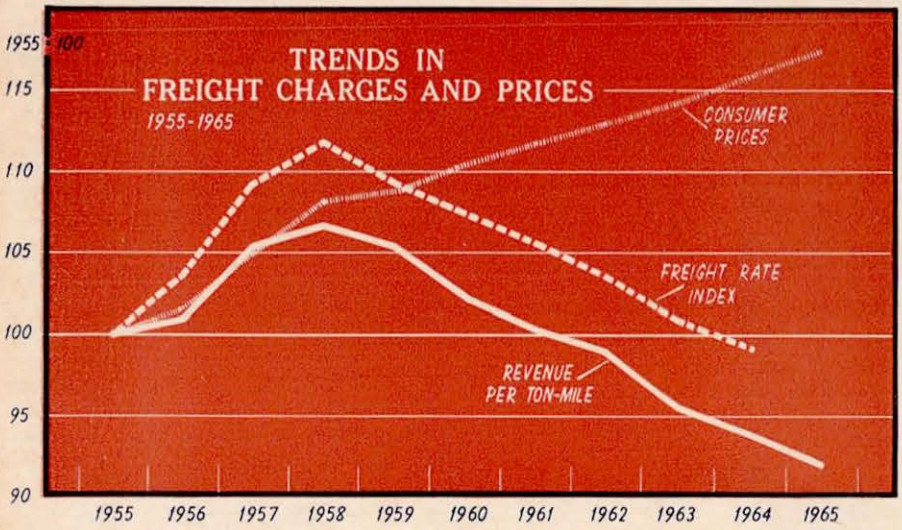
—Net income (after addition of income from outside sources, such as dividend income, and after meeting fixed interest and rentals) of about $775 million, up 12% from 1964 and the highest since the 1956 net income of $876 million.

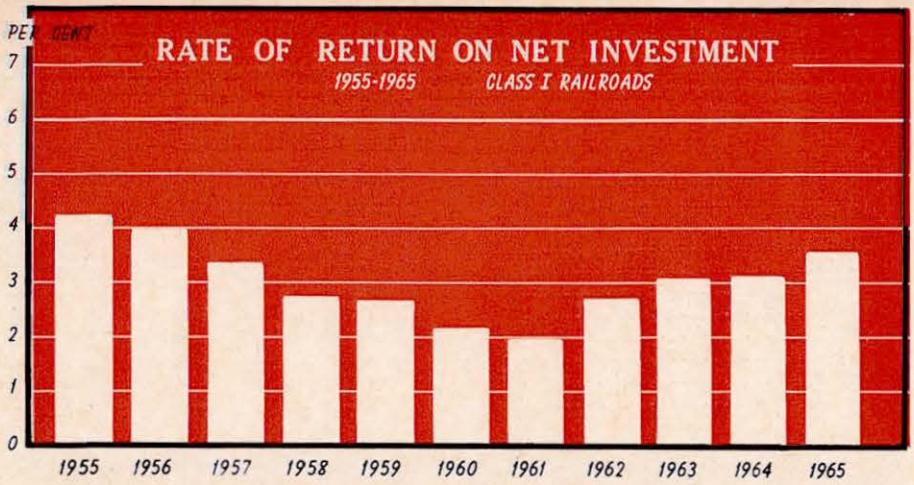
Thus the railroads in 1965 made further progress on the road to recovery from their alarming earnings deterioration of the late 1950's and early Sixties. The rate of financial progress is far from spectacular, however, especially when compared with other industries. Corporate profits generally in 1965 will be two-thirds higher than they were 10 years earlier, while railroads have yet to regain even the 1955 level. Electric and gas utilities enjoy a return on net worth of more than 10% and manufacturing corporations earn 14%, but the improved net income of the railroads as estimated for 1965 is equivalent to less than 5% of the rail shareholders' equity.

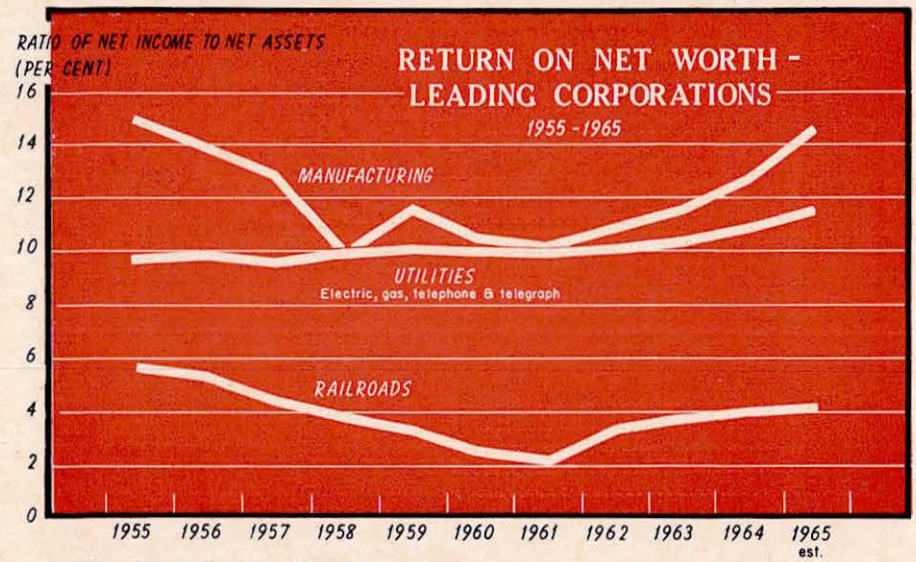
The condensed income account shown in Table 2 reveals that while gross revenues in 1965 were about the same as in 1955, estimated net railway operating income and net income were less than in that earlier year by about $200 million and $150 million, respectively. A reduction of some $170 million in tax accruals was more than offset by increases of approximately $145 million in operating expenses and $225 million in operating rentals, the latter being attributable not only to higher mileage allowances paid to owners of private freight cars but also to payments for highway trailers used in piggyback service and for leased equipment operated under railroad reporting marks.

• **Trend to leasing.** The trend toward greater use of leased rather than owned equipment, with a resulting shift of some charges from operating expenses to rents, emphasizes the shortcomings of a railroad "operating ratio" as customarily calculated based on expenses alone. The failure of such a ratio to take into account the increasing burden of equipment rentals and of such direct operating costs as payroll taxes and property taxes is well illustrated by the comparison of income accounts for 1955 and 1965. For these years the customary operating ratio would show an increase of only 1.4 percentage points, from 75.7 to 77.1. The more complete ratio, including operating rents and taxes other than federal income taxes, increased by 4.6 percentage points, from 84.7 to 89.3, as shown by Table 2.

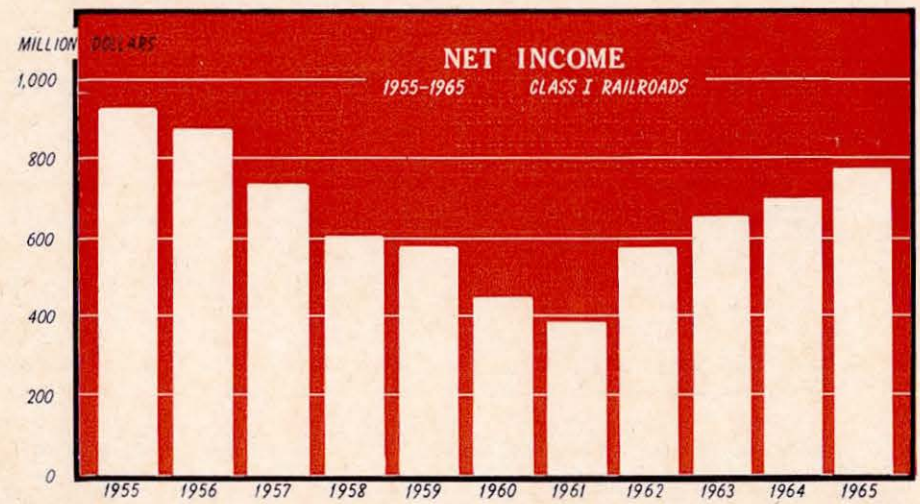
A breakdown of estimated operating revenues, as set forth in Table 3, shows continuation of a trend toward lessening importance of passenger-train service, as passenger, mail and express revenues combined amounted to only 9.3% of 1965 revenues, compared with 10.0% in 1964 and 11.4% in 1955. Each of these three accounts was down in 1965 from the previous year, but mail revenue, estimated at $310 million, was $23 million greater than in 1955. Freight revenue, an estimated $8,735 million or 86.5% of total revenues, exceeded the previous year by $280 million (about 3%) and was also







SOURCE: First National City Bank of New York.



about $200 million more than in 1955. This increased freight revenue was the result of a greater volume of traffic carried at lower average charges.

● **Operating expenses up.** The increase in operating expenses to $7,790 million in 1965 from $7,738 million in 1964 was due, as shown in Table 4, to increased transportation expenses, although the ratio of such expenses to revenues showed a slight decline. Total maintenance expenses, despite an increase of about $15 million in depreciation charges, were little changed from 1964. The maintenance ratio to revenues also dropped somewhat, possibly due in part to increased equipment leasing as noted above in regard to the rise in operating rents. Compared with 1955 and reflecting efficiencies from mechanization, total maintenance charges were down by about $190 million, although the depreciation charges included therein increased by some $150 million in the same period. Transportation expenses were up $225 million over the ten years, and "traffic, general and other" categories also increased.

Tax accruals, as shown by Table 5, are expected to show an increase of about $40 million in 1965 over 1964, including an estimated increase of approximately $20 million in federal income taxes. As in other recent years, the railroads' income tax liability in 1965 was substantially reduced by liberalized and more realistic depreciation allowances and the 7% tax credit for capital investment. The increase in payroll taxes to $395 million in 1965 from $385 million in 1964 resulted from a higher tax rate for railroad retirement purposes, as noted elsewhere herein under "Legislative Activity." Under present law, as amended in 1965, further increases in railroad retirement taxes are scheduled for future years. In addition, railroads continue to pay a 4% tax on a maximum of $400 per month per employee for unemployment and sickness insurance.

Capital expenditures

Acceleration of modernization programs raised Class I railroad capital spending in 1965 to an all-time record high of approximately $1.6 billion, surpassing the previous record set in 1964 by nearly $200 million or about 13%. Purchases of railroad material and supplies are expected to show an increase of some 5% to more than $1.5 billion, bringing total 1965 spending by the railroads for capital investment and for products consumed in operations to more than $3 billion.

The investment outlay of $1.6 billion included about $1.3 billion for equipment and $300 million for roadway improvements. Equipment spending included some $300 million for more efficient locomotives and nearly $1 billion for bigger and better freight cars.

Roadway spending went for modern yards and improved signaling and communications systems, new roadway maintenance machines, heavier rail, gentler curves and grades, higher and wider clearances, and similar contributions to better and more economical railroad service.

Some interesting aspects of the railroads' capital spending in 1965 are these: (1) The "record" is partly the result of price escalation. On the basis

of a comparable dollar, expenditures were more than $1.8 billion in 1951 and more than $2.0 billion in 1929. But in 1929 railroads generated sufficient funds internally to cover capital expenditures by a substantial margin. Such funds generated in 1965 (net income plus depreciation) were substantially less than the capital outlay and required additional debt financing. (2) The amount of capital spending by Class I railroads fails to portray the full magnitude of railroad modernization programs today, since much new equipment is being installed by railroads under leasing arrangements or is being put in service under private reporting marks. The total value of new railroad plant and equipment placed in service in 1965, including that which does not show in investment accounts of Class I railroads, was probably close to $2 billion.

Technological developments

Research activities and technological developments such as those noted below, continue to advance the efficiency and economy of railroad transportation.

Freight car capacities increase each year. The latest tank car carries 60,000 gallons, or six times the standard of a few years ago. The "Hy-Cube" box car, developed for hauling automobile parts over long distances and now being built in quantity, exceeds the cubic capacity of two earlier cars. A new type, single-axle suspension nodular car has been developed by one railroad, having a capacity of 280 tons and, being constructed of aluminum, a high ratio of lading weight to car weight. A 315,000-lb-capacity tank car has been developed for handling chemicals and other high density bulk commodities. These and other new types of freight cars, by introducing new efficiencies, provide a basis for establishment of rates more competitive with other modes of transportation.

- **Hotbox progress.** Continued con-

Table 1: Rate of Return and Net Income—1955-1965

Year	Net railway operating income (millions)	Rate of return on investment after depreciation	Net income after fixed charges (millions)
1955	$1,128	4.22%	$927
1956	1,068	3.95	876
1957	922	3.36	737
1958	762	2.76	602
1959	748	2.72	578
1960	584	2.13	445
1961	538	1.97	382
1962	726	2.74	571
1963	806	3.12	652
1964	818	3.16	698
1965 (est.)	925	3.55	775

Table 2: Condensed Income Account—1955, 1964 and 1965

	1955 (millions)	1964 (millions)	1965 (est.) (millions)
Total operating revenues	$10,106	$9,857	$10,100
Total operating expenses	7,646	7,738	7,790
Taxes	1,080	871	910
Rents (net debit)	252	430	475
Total expenses, rents and taxes, excl. Fed. inc. taxes	8,564	8,901	9,015
Ratio to revenues	84.7%	90.3%	89.3%
Net railway operating income	$1,128	$818	$925
Net income	927	698	775

Table 3: Operating Revenues—1955, 1964 and 1965

	1955 (millions)	1964 (millions)	1965 (est.) (millions)
Freight	$8,538	$8,455	$8,735
Passenger	743	578	550
Mail	287	329	310
Express	118	80	75
All other	420	414	430
Total	10,106	9,857	10,100

Table 4: Operating Expenses—1955, 1964 and 1965

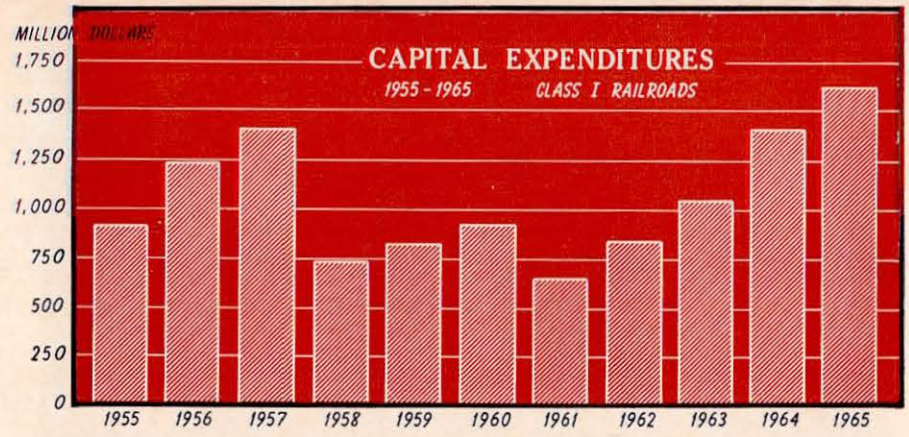
	1955 (millions)	1964 (millions)	1965 (est.) (millions)
Maintenance of way	$1,387	$1,226	$1,225
Maintenance of equipment	1,788	1,764	1,760
Transportation	3,770	3,921	3,995
Traffic, general and other	701	827	810
Total	7,646	7,738	7,790

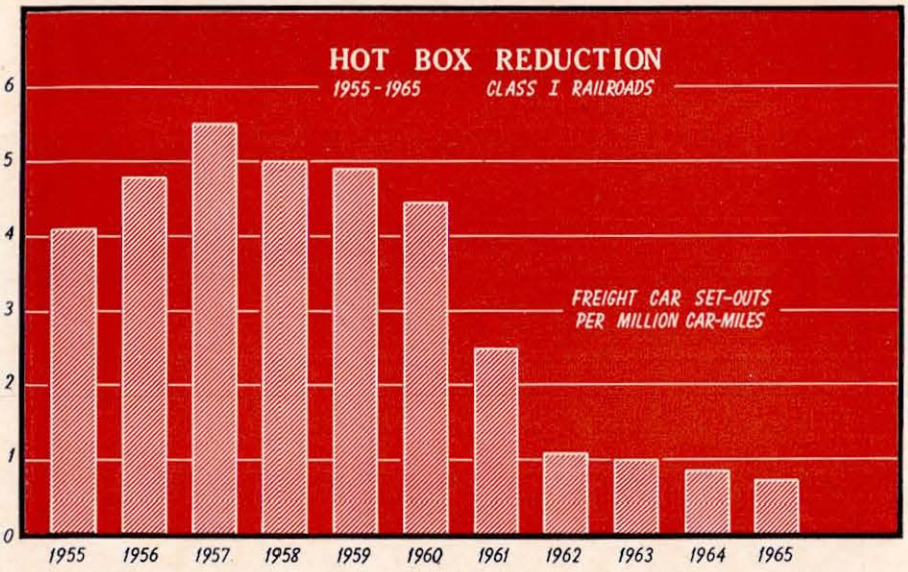
Table 5: Railway Tax Accruals—1955, 1964 and 1965

	1955 (millions)	1964 (millions)	1965 (est.) (millions)
Payroll taxes	$284	$385	$395
Federal income taxes	414	138	160
All other taxes	382	348	355
Total taxes	1,080	871	910

Table 6: Capital Expenditures and Purchases—1955-1965

Year	Gross capital expenditures (thousands)	Purchases of fuel, material and supplies (thousands)
1955	$ 909,521	$1,637,075
1956	1,227,857	1,883,848
1957	1,394,705	1,816,471
1958	738,036	1,230,617
1959	818,002	1,430,144
1960	919,154	1,463,245
1961	646,425	1,262,220
1962	832,938	1,311,293
1963	1,045,098	1,401,424
1964	1,417,263	1,475,599
1965 (est.)	1,600,000	1,550,000





centration on the problem of overheated freight car journal bearings, or hotboxes, was rewarded by further gains in 1965. Progress is measured in terms of average "car-miles per freight car set out between division terminals account hotbox." Responding to improved lubrication and detection devices, this average has increased more than sixfold since 1960, or, expresed conversely, the frequency of hot box set-outs has been reduced by 83%, from 4.43 per million car-miles in 1960 to about .74 per million car-miles in 1965.

Other studies are directed toward minimizing en route servicing of journal bearings. The latest design of freight car roller bearing operates for a period of three years without requiring regreasing, and it is expected that this period will be extended.

In connection with the Northeast Corridor project, high speed operation of passenger cars will be studied during 1966. Tests with prototype cars are expected to show what further developments or refinements are needed. Automatic electronic controls for suburban equipment will be tested in the San Francisco Bay Area project. Other new concepts to be used in this equipment include airsprings and disc brakes.

● **Motive power.** Locomotive development has proceeded to the point where 5,500 and 6,000 horsepower are now available in a single diesel-electric unit. Utilizing alternators and solid state rectifiers instead of the larger and heavier direct current generators, these locomotives will provide more horsepower per pound of weight. Improved traction motors with new types of superior electrical insulation will permit effective use of the increased power.

Expanded application of the unit-train principle has led to development of electro-pneumatic devices for automatically opening hoppers and speeding terminal handling.

Vacuum degassing of steel during production has been applied experimentally to the production of rails. Laboratory tests by the AAR Research Center on sample rails rolled from steel made by this process indicate that such steel is a satisfactory replacement for open hearth steel. Service tests of the rail are now under observation. The advantage of the process is that control cooling boxes will no longer be required. There have been continuing developments in differential hardening of the top surface of rails to better resist the contact pressures from increasing wheel loads. Additional miles of jointless "ribbon rail" are being laid in track, and developments have continued on improved welding methods, particularly of field type welds.

Further improvements have been made in the design and fabrication of prestressed concrete ties. Although this type of tie still represents a small proportion of total tie purchases, difficulty is being experienced by railroads in purchasing wooden ties in desired quantities, and the present backlog of orders approximates 10 million ties.

● **Small-yard automation.** A type of automation has been developed for small yards to replace flat switching or manually-controlled hump operations. A retarder senses the weight of the car, and speed is measured by the sound frequency generated as the wheel passes over a serrated rail head. An electronic device communicates these data to the retarder, which in turn provides sufficient braking to insure proper coupling speed.

Development of automatic car identification has continued and three systems are in experimental use. These systems employ either visible light, radio wave or microwave to detect and record an identifying symbol on each freight car without stopping the train and without visual observation and manual recording.

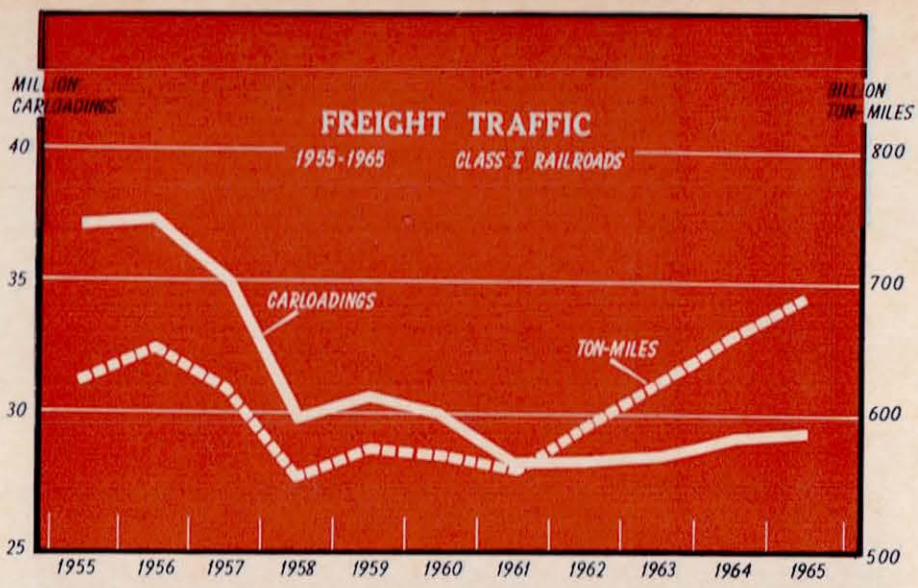
Developments have also continued on coupled, in-motion weighing and several additional installations have been placed in service. This method reduces both weighing costs and car detention. It is particularly advantageous for unit train operation.

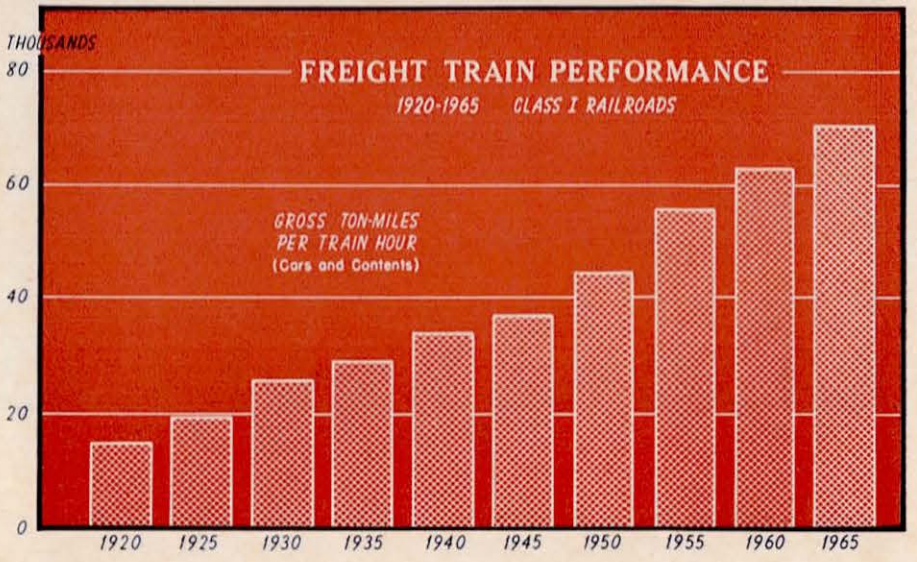
Computerization

Applications of computerized data systems were accelerated in the railroad industry in 1965. An important factor in this development on a cooperative industry-wide basis was the first annual meeting of the AAR Data Systems Division held in September. Committees of the new division, through open meetings and workshops, continued through the year to promote information exchange programs in all aspects of data systems activity.

In 1965, 45 railroad companies used 143 computers. Most large railroads are now using their communications facilities to transmit large volume of data from outlying points into centralized computers.

The principal emphasis in 1965 was on the development of information systems to aid in the effective control of operations for improved service at low-





er cost. A key element in such systems is a continuous inventory of all freight equipment on line. Prompt tracing of cars in response to customer inquiries is becoming one of many important results of an operating management information system.

In the accounting area, most major roads have computerized nearly all accounting functions. A significant recent development is centralized freight billing, through which several roads have achieved significant economy as well as improved customer service.

In the traffic area, more and more roads are producing commodity statistics and sales reports by computer. In 1965 many roads increased their emphasis on market research, and developed computer programs designed to provide a complete picture of freight shipments for continuing rate and division analysis.

Projects advanced by the industry in 1965 through the Data System Division included the following:

Automatic Car Identification (ACI), which aims to label every freight car in interchange service so that it can be identified automatically while in motion.

Universal Machine Language Equipment Register (UMLER), to make the detailed freight car characteristics published in the *Official Equipment Register* available to the industry's computers on magnetic tape. This is a vital step toward the ultimate objective of using computers to distribute empty freight cars to meet customer needs.

Standard Transportation Geographic Code (STGC), being developed by the railroad industry in cooperation with the trucking industry, shippers and interested government agencies, in order to provide standard identification for places in the United States, Canada and Mexico. Such identification is essential to future developments in the computerization of rates and tariffs and the interchange of shipping information in machine language between shippers and carriers.

Traffic trends

Railroad freight traffic statistics for 1965, like those of other years since 1961, continued to reflect (1) rising economic activity in the United States, (2) greater participation by railroads in the nation's traffic growth, and (3) the carriage of heavier loads in larger cars. But on the passenger side, traffic declined for the 14th successive year.

Revenue ton-miles for the 76 railroads reporting as Class I in 1965* are expected to reach 695 billion, up 6% over the ton-miles of the same railroads in 1964 and an increase of more than 5% over the volume reported by the 98 railroads which filed 1964 annual reports as Class I line-haul railroads.

The 1965 ton-mile total has been exceeded in the past by only the two war years, 1953 and 1944.

Revenue freight carloadings amounted to 29,553,771 for the 52 weeks ended Dec. 25, 1965, representing an increase of 1.8% over the 29,027,186 cars reported by the same railroads for the corresponding weeks of 1964.

The greater relative increase in ton-miles than in carloadings is attributable to the installation of additional large numbers of higher capacity freight cars, as well as heavier loading of older cars. The result in 1965 was a further increase of about 4% in average ton-miles per loaded car. This average has increased by nearly 25% in a period of five years.

Analysis of the railroads' gain in

*Effective Jan. 1, 1965, the Interstate Commerce Commission changed its reporting regulations to provide that railroads having annual revenues over $5 million are to report as Class I companies, others as Class II. From Jan. 1, 1956, to Dec. 31, 1964, the Class I minimum had been $3 million. Prior to 1956 it was $1 million. Inasmuch as the reclassification in 1965 affected most statistics of Class I railroads as a group by only one-half to three-quarters of one per cent, and the 1956 change amounted to less than one-tenth of one per cent, data shown herein for prior years, other than revenue carloadings for 1964, have not been revised to the 1965 reporting basis.

freight traffic in 1965 is rendered difficult by the fact that most of the increase in carloadings and 55% of the year's total were in the "miscellaneous" category which includes not only manufactured goods but also various other commodities such as sand and gravel, phosphate rock, and fruits and vegetables. None of the Interstate Commerce Commission's freight commodity statistics have been published for 1965 or 1964.

The limited commodity breakdown provided by the weekly carloading report shows increases in all categories except ore, which fell sharply after the threat of a steel strike was passed in September, and the relatively small categories of livestock and LCL. The latter, off 27% from 1964, has declined by 75% in five years.

Piggybacking of highway trailers and containers on flat cars (TOFC) amounted to 1,031,210 cars, up 141,000 cars or 16% from the 1964 total and exceeding the million-car mark for the first time. TOFC loadings have multiplied six times during the eleven years that records have been maintained. Coal loadings scored their fourth successive annual gain in 1965.

The railroads also increased again their share of the movement of new motor vehicles, a kind of traffic they had largely lost before the advent of the multi-level rack car in 1960. Statistics of shipments from factories as compiled by the Automobile Manufacturers Association are expected to show rail shipments up from 3,550,000 or 38% of the total in 1964 to nearly 5,000,000 or 45% in 1965.

Railroad passenger service, despite some revival of interest in connection with the Northeast Corridor study, showed no general revival of patronage. The number of passengers carried fell to a 20th century low of about 300 million, while passenger-miles dropped to slightly over 17 billion, lower than in any year since 1933. Travel was off from the previous year by about 10% in sleeping and parlor cars, 5% in coaches, and about 1% in commutation service. The decline was general, geographically, although the loss in commutation traffic occurred entirely in the East, and the decline in coach traffic in the South was slight.

Equipment trends

For the same reason that carloadings are not as good a measure of railroad freight traffic as they once were, statistics of railroad equipment which deal only with numbers of units without regard to size fail to portray true trends in equipment capability.

Table 7: Comparative Traffic Summary—1955-1965

Year	Revenue carloadings (thousands)	Piggyback carloadings (thousands)	Revenue ton-miles (millions)	Revenue passenger-miles (millions)
1955	37,636	168	623,615	28,526
1956	37,845	208	647,077	28,185
1957	35,500	249	618,194	25,884
1958	30,222	278	551,667	23,269
1959	31,015	417	575,529	22,047
1960	30,441	554	572,309	21,258
1961	28,590	591	563,361	20,283
1962	28,722	706	592,862	19,902
1963	28,871	797	621,737	18,494
1964	29,027	890	658,639	18,245
1965	29,554	1,031	e695,000	e17,200

e Estimated

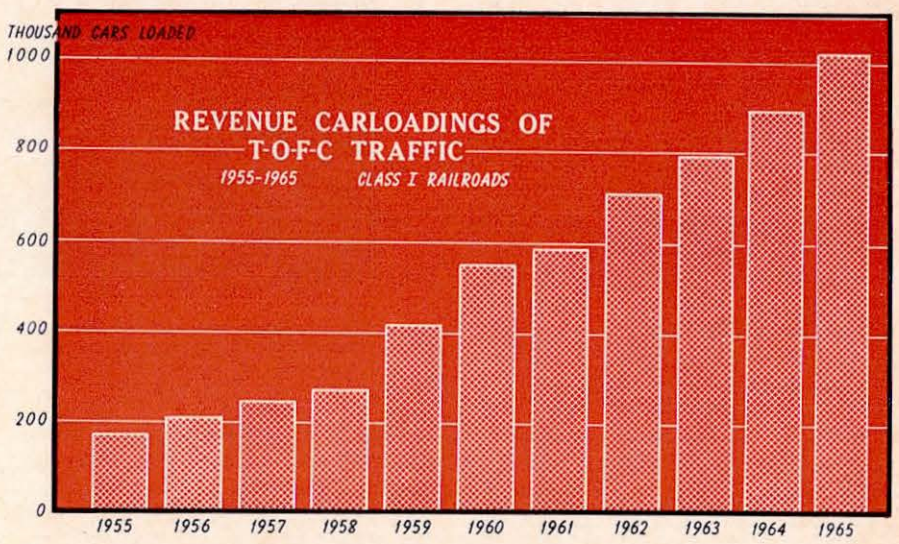
Table 8: Carloadings by Commodity Groups—1965 vs. 1964

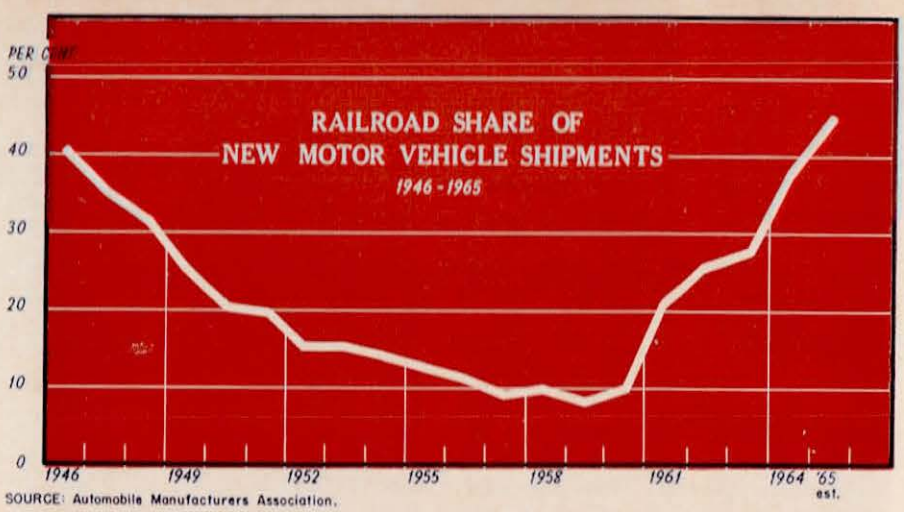
	Carloadings in 1965 (thousands)	Per cent of total	Increase over 1964 Carloadings (thousands)	Per cent
Miscellaneous	16,222	54.9	529	3.4
Coal	5,679	19.2	149	2.7
Grain and products	2,657	9.0	32	1.2
Forest products	2,003	6.8	44	2.2
Ore	1,962	6.6	d43	d2.2
Coke	440	1.5	17	4.1
Livestock	125	.4	d28	d18.3
Total carloads	29,089	98.4	701	2.5
Merchandise, LCL	465	1.6	d174	d27.2
Total carloadings	29,554	100.0	527	1.8
TOFC (piggyback) included above	1,031	3.5	141	15.8

d—decrease

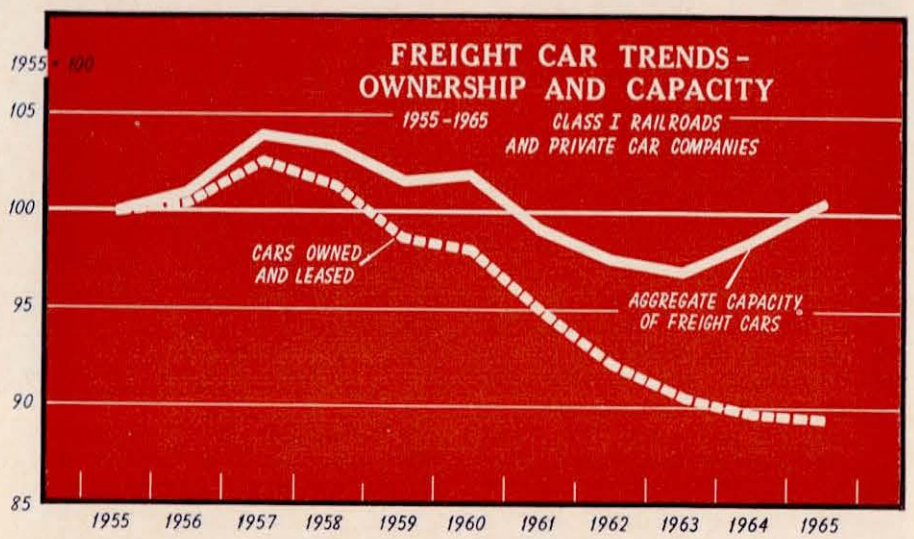
The new and rebuilt equipment of 1965, summarized in Table 9, is especially noteworthy for the fact that capacity of both freight cars and locomotives installed substantially exceeded that of a larger number of units retired during the year. Thus, while the equipment inventory showed a decline during 1965, as set forth in Table 10, the carrying capacity of freight cars and the pulling power of locomotives were greater at year-end than at its beginning.

The average freight car placed in service in 1965 had a carrying capacity of 78 tons, nearly half again the 54-ton average of cars retired. These improved cars cost some $15,000 each, or nearly double the comparable figure ten years earlier. The average new locomotive in 1965 had a 2,500-hp rating, up 50% over the average of ten years ago. Average cost per unit is estimated at $225,000, up about one-third in ten years. Engineering achievements of lo-

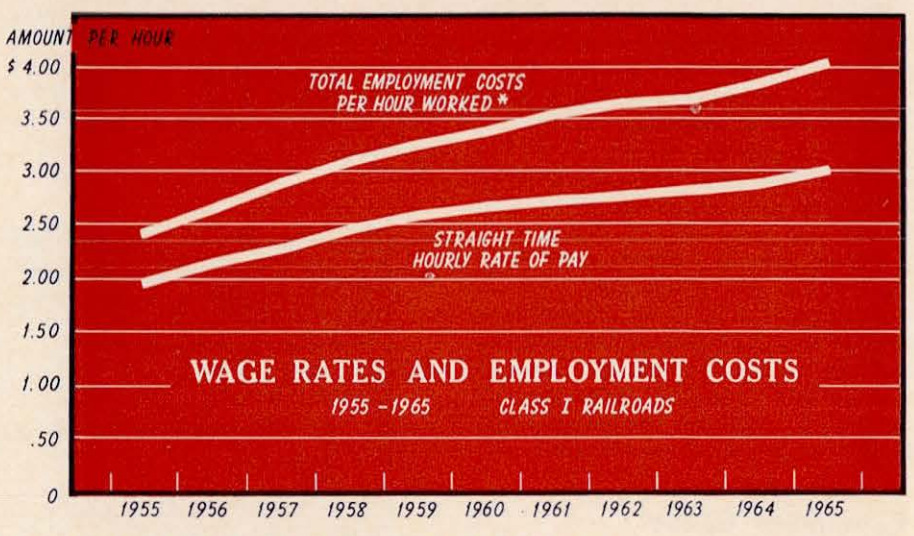




SOURCE: Automobile Manufacturers Association.



As of end of year, capacity of private line cars estimated.



* Includes hourly cost of payroll taxes, health and welfare benefits, vacation and holiday pay, overtime premiums, etc.

comotive builders are responsible for a decline in average price per horsepower during this period. It is a remarkable fact that locomotive horsepower costs less today than it did in the early post-war years.

The growing importance of so-called "private" freight cars is another major factor in evaluating total fleet capability. During the ten years from 1955 to 1965, while freight cars owned and leased by Class I railroads declined by nearly 210,000 cars, private cars increased by 10,000, and helped, along with increased car capacity, to meet the shifting needs of the nation's shippers. A 30,000-car decline occurred in the number of private refrigerator cars, but there were increases of 10,000 tank cars, 10,000 covered hoppers, and some 20,000 flat cars, the latter largely cars of the Trailer Train Company, a railroad subsidiary. About 20,000 new private cars were added in 1965, or nearly one-fourth of the year's total installations.

Another notable equipment trend is the decline of the "common" box car. The number of such general-service cars has decreased by about one-fourth in ten years. Concurrently there has been rapid growth of special-service box cars and covered hoppers of greatly increased capacity as well as of flat cars carrying "box-car" commodities in TOFC service and motor vehicles on multi-level racks.

Passenger-train car ownership continued to follow the downward trend of passenger-train traffic and revenues. Such cars again constituted only a small part of equipment installations, as only about 250 were installed new in 1965 and less than one-half of these were passenger-carrying cars.

Employment and wages

Railroad employment averaged approximately 640,000 during the year 1965, about 25,000 or 4% below the 1964 level, continuing the trend shown in Table 11. Total wages, however, increased to an estimated $4,765 million, up about $67 million over 1964 as a result of increases in wage rates made effective during that year and further increases effective in 1965.

Annual earnings per employee, exclusive of wage supplements, averaged about $7,445, an increase of $381. Wage supplements averaged about $890 per employee in 1965. The average

straight time rate of pay amounted to about $3.00 per hour and straight time hourly earnings (straight time pay per straight time hour actually worked) averaged approximately $3.22.

Wage supplements in the form of payroll taxes to provide pensions and unemployment and sickness benefits administered by the Railroad Retirement Board totaled about $395 million for the year. The carriers also provided hospital, medical and surgical benefits for employees and their dependents and life insurance for employees at a cost of some $175 million. These supplements, when added to the total wages, which include vacation and holiday pay, overtime premium pay and the effect of mileage pay in train and engine service, result in average employment cost of about $4.05 per hour actually worked.

A 15-cent-per-hour increase in the average straight time rate was the result of settlements made in 1964 or carried from that year to early 1965. Under provisions of 1964 agreements nonoperating employees received an increase of nine cents per hour and locomotive firemen received an increase of 72 cents per basic day effective Jan. 1, 1965. An agreement dated Feb. 4, 1965, with organizations representing electricians, machinists and sheet-metal workers followed the pattern of the 1964 nonoperating employees' agreement with respect to holidays, vacations, health and welfare and group life insurance. Rates of pay for journeymen were increased nine cents per hour retroactive to Jan. 1, 1964, by 4% on Jan. 1, 1965 and by 3.5% on Jan. 1, 1966. Helpers were granted increases of nine cents per hour and regular apprentices six cents per hour on those dates.

On Feb. 7, 1965, the carriers entered into a job stabilization agreement with five nonoperating organizations representing clerical and maintenance of way employees, telegraphers, signalmen, and dining car employees. The agreement recognized the carriers' right to make technological, organizational and operational changes, and to transfer employees. Protective conditions were established for employees in active service as of Oct. 1, 1964, who had two years or more of employment relationship and had fifteen or more days of compensated service during 1964. Protected employees will be retained in compensated service until retired, discharged for cause, or otherwise removed by natural attrition, and work forces of protected employees may not be reduced in excess of 6% per annum. However, protected employment may be reduced temporarily by a carrier under specified conditions.

A National Joint Board established pursuant to requirements of Arbitration Award No. 282 was expected to report on its study of road freight and yard service operations with and without the employment of firemen prior to March 31, 1966. (In its report filed on Jan. 5, 1966, the National Joint Board concluded that there have been virtually no adverse effects from the removal of firemen in freight and yard diesel service.)

On June 29, 1965, the Senate Committee on Commerce announced its intention to investigate complaints by the Brotherhood of Locomotive Firemen & Enginemen regarding administration of Arbitration Award No. 282 as to the use of firemen in freight and yard service. Hearings were held intermittently during August and September. On Oct. 12 the Committee adopted a resolution which stated: "That it is the sense of the committee that the public interest would be served by representatives of the firemen employees (the Brotherhood of Locomotive Firemen & Enginemen where they hold the contract and the Brotherhood of Locomotive Engineers where they hold the contract) and the carriers undertaking collective bargaining." The resolution also stated that "findings made by Arbitration Board No. 282 under Public Law 88-108 shall not be affected in any way."

Under date of Nov. 15, 1965, the Brotherhood of Locomotive Firemen & Enginemen filed notices upon the carriers in three parts, each to be effective on March 31, 1966. The first part would require the use of firemen on all locomotives in road and yard service except upon some daylight yard and branch line jobs under specified con-

Table 9: New Equipment Installed—1955-1965

Year	Freight cars	Passenger-train cars	Diesel-electric locomotives	Other locomotives
1955	35,738	444	1,172	10
1956	59,768	411	1,445	8
1957	88,482	191	1,312	4
1958	39,278	148	430	4
1959	41,413	74	835	7
1960	47,169	239	440	13
1961	25,633	204	242	32
1962	29,287	285	754	28
1963	33,770	143	806	13
1964	65,801	408	1,116	—
1965 (est.)	68,000	250	1,450	—

Note: Units rebuilt are counted as new. Freight car installations do not include cars operated under private reporting marks.

Table 10: Inventory of Equipment—1955-1965

December 31	Freight cars*	Passenger cars (incl. Pullman)	Head-end passenger-train cars	Diesel locomotive units	Other locomotive units
1955	1,694,097	22,479	15,118	24,899	6,605
1956	1,707,683	21,164	14,472	26,190	4,287
1957	1,746,684	20,105	14,114	27,320	2,956
1958	1,725,723	18,577	13,767	27,715	1,872
1959	1,677,965	17,459	13,208	28,238	1,288
1960	1,661,577	16,181	12,818	28,369	774
1961	1,606,696	15,004	12,345	28,240	614
1962	1,552,371	14,240	11,788	28,170	505
1963	1,515,139	13,732	11,369	27,969	478
1964	1,494,703	12,507	11,154	27,879	433
1965 (est.)	1,485,000	11,500	11,000	27,750	400

*Approximately 300,000 cars owned by private car lines and by railroads other than Class I are not included.

Table 11: Employees and Their Compensation—1955-1965

Year	Average number of employees	Total payroll (thousands)	Average annual earnings of employees	Average straight time hourly Rate	Average straight time hourly Earnings
1955	1,058,216	$4,993,662	$4,719	$1.96	$2.08
1956	1,042,664	5,324,672	5,107	2.13	2.25
1957	986,001	5,358,044	5,434	2.28	2.42
1958	840,575	4,929,906	5,865	2.46	2.61
1959	815,474	4,986,253	6,115	2.56	2.72
1960	780,494	4,893,558	6,270	2.62	2.80
1961	717,543	4,623,982	6,444	2.69	2.87
1962	700,146	4,662,065	6,659	2.75	2.95
1963	680,039	4,629,566	6,808	2.78	2.99
1964	665,034	4,697,884	7,064	2.85	3.06
1965 (est.)	640,000	4,765,000	7,445	3.00	3.22

ditions. The second part proposes that employees, whose service and seniority were terminated by the application of Award No. 282, be restored to service with seniority unimpaired and reimbursement for monetary losses resulting from deprivation of seniority rights. The third part seeks to establish detailed standards for an apprenticeship program for the training of locomotive enginemen. Railroad spokesmen termed the union's demands largely illegal.

Wage rates and prices

As indicated above, the average wage rate of railroad employees rose in 1965 by more than 5% and there was, in addition, a further increase in wage supplements. While the 1966 increase in the average straight time rate was the 20th annual increase in 20 years, and therefore no novelty, it is noteworthy for its size, being the largest since 1958.

Railroad material prices moved upward in 1965, although over a longer period they have displayed a relative stability similar to that which, until recently, has characterized wholesale prices generally for nearly a decade. As shown by Table 12, the index of railroad material prices, compiled by the Bureau of Railway Economics from purchases of the principal railroads, stood at 102.0 in October 1965. Thus spot prices in the fall of 1965 were only 2% higher than in the 1957-1959 period, but they were up 2.5% in 12 months. By comparison, the Department of Labor's Wholesale Price Index for commodities other than farm products and processed foods (such products have no weight in the railroad material price index) was 102.8 in October 1965, up 1.3% in 12 months. Excluding fuel, prices of which have risen in the past year but remain well below the 1957-1959 level, the railroad material index in October was 105.4 or about equal to the "producer finished goods" component of the BLS Wholesale Price Index.

On a chargeout basis, measuring the original purchase price of materials consumed during the year, the railroad material price index in 1965, including fuel, was 101.6, up 1.6% over both 1964 and the 1957-59 base, as shown in Table 13. The combined index of wages and prices rose by 4.6% (or 5.2 points) to 118.3. The wage component, being passed on the average straight time rate of pay, understates the full increase which has occurred in railroad labor costs including payroll taxes and other fringe benefits. While the average rate of straight time pay in 1965 was 23% greater than the 1957-59 average, labor costs per hour actually worked were up by 31%.

Rates and fares

● **Freight rates.** Outstanding among freight rate developments in 1965 was the increased use of multiple-car and trainload rates to attract profitable traffic while reducing railroad costs. Incentive and experimental rates were also featured, as well as further modifications of the standardized plans for TOFC services. Rate adjustments reflected greater efficiency associated with technological and operating advances as well as results of market research and cost studies. Larger and improved freight cars designed with the cooperation of equipment manufacturers were an increasingly important factor. Many reductions in grain rates, as well as on other commodities, were introduced to enable the railroads to compete more effectively with water and truck transportation.

There was a further spread of unit-train operations in 1965, moving huge quantities of coal, grain and other commodities, in both railroad and shipper-owned cars, at sharply reduced costs and charges. An 80-car unit train made its first run in the spring of 1965 carrying 5,600 tons of hot steel slabs from the Lackawanna plant of Bethlehem Steel near Buffalo, N. Y. to Bethlehem's new Burns Harbor plant near Gary, Indiana.

The Interstate Commerce Commission approved a 60% reduction in grain rates of the Southern Railway System in I&S Docket No. 7656, *Grain in Multiple-Car Shipments — River Crossings to the South*, following reconsideration of its July 1963 decision as ordered by the Supreme Court, apparently writing the final chapter in a prolonged proceeding. The decision noted that these rates were designed to compete with unregulated truck movements, the dominant method of carriage in the area, and that the rates do not result in destructive competition against the protestant barge lines.

The ICC in Docket No. 33171 (322 ICC 743) has vacated in 1964 the "absolute rate-break rule" on grain shipments which had been in effect for over 30 years. The United States District Court for the Northern District of Illinois on May 24, 1965, had upset the order of the Commission on the ground that it had gone beyond the subject matter envisioned in the Commission's notice to the parties. At year end the lower court decision was on appeal to the United States Supreme Court.

By decision dated Nov. 9, 1965, the full Commission on reconsideration of the original record reversed (with three Commissioners dissenting) the findings of its Division 2 in I&S Docket No. 8038, *Ingot Molds, From Pennsylvania to Steelton, Ky.* The Division had ruled that proposed water-competitive rates above rail out-of-pocket but below rail fully-distributed cost did not destroy the inherent water carrier cost advantage where, as in the proceeding, the barge lines voluntarily maintained rates below their own fully-distributed costs. The primary contention of the railroads that fully-distributed cost is an invalid economic concept for determining floors for minimum rates was not accepted by the Commission. A dissenting opinion stated that "the majority's action invites both reversal in court and legislative action."

An examiner's proposed report in I&S Docket No. 8125, released Dec. 1, 1965, recommends approval of reduced rates on paper moving through Baltimore, but would deny like rates proposed for other North Atlantic ports on the ground that they have not been shown to be just and reasonable. The examiner would thus uphold the contention of Baltimore railroads that the U.S. Supreme Court's 1963 decision condemning differentials in favor of the southern tier ports permits maintenance through any of the competing ports of reduced rates which can be justified as reasonably compensatory.

The eastern, southern and western lines approved proposals to increase by 10% the marked capacity of all cars, except tank cars, having stencilled capacities of 80,000, 100,000 and 140,000 pounds. The decision was based on findings by the AAR Mechanical Division that today's cars can sustain heavier bulk loadings within the margins of safety recommended by engineering studies. It thereby provides for more efficient utilization of equipment and increased revenue per car. The increase in marked capacity became effective April 24, 1965.

The carriers, aiming to bring charges for performing accessorial services more closely in line with costs, were successful in 1965 in obtaining approval of increased charges for loading and unloading, for stopping in transit for par-

Table 12: Railroad Material Price Index—1964-65

(Mid-year 1957-1959=100)

	Materials and supplies other than fuel	Fuel	All materials (including fuel)
January 1964	103.6	94.0	101.0
April 1964	104.0	91.1	100.6
July 1964	104.1	86.9	99.6
October 1964	104.1	86.5	99.5
January 1965	104.2	90.8	100.7
April 1965	105.1	91.8	101.6
July 1965	104.9	91.0	101.1
October 1965	105.4	92.8	102.0

Table 13: Index of Wage Rates and Material Prices—1955-1965

(Average 1957-1959=100)

Year	Wage rates (all employees)	Chargeout prices for all materials including fuel	Wage rates and material prices combined
1955	80.7	88.3	82.5
1956	87.4	94.0	89.0
1957	93.8	99.9	95.3
1958	101.1	99.0	100.6
1959	105.1	101.2	104.1
1960	107.8	101.2	106.1
1961	110.4	101.7	108.2
1962	112.9	101.0	110.2
1963	114.1	100.7	111.1
1964	117.0	100.0	113.1
1965 (prel.)	123.2	101.6	118.3

Table 14: Freight Rates and Revenue Averages—1955-1965

Year	ICC freight rate index (1950=100)	Revenue per ton-mile (cents)	Revenue per passenger-mile (cents)
1955	108	1.370	2.604
1956	112	1.384	2.684
1957	118	1.445	2.839
1958	121	1.463	2.900
1959	118	1.445	2.951
1960	116	1.403	3.011
1961	114	1.374	3.079
1962	112	1.348	3.110
1963	109	1.310	3.179
1964	107	1.284	3.168
1965 (est.)	n.a.	1.260	3.200

tial loading and unloading, for weighing and reweighing, and for interstate switching.

To combat the competition of the St. Lawrence Seaway, Eastern railroads published drastically reduced rates on export grain in 100-ton covered hopper cars from Chicago, Ill., and origins in Ohio, Indiana, Michigan and Kentucky to North Atlantic ports. The rates apply only on shipments of 2,250 tons or more and are effective during the period of open navigation on the Seaway. The ICC declined to suspend the reduced rates, which became effective Oct. 10, 1965.

Transcontinental lines, with concurrence of eastern and southern lines, published a scale of proportional rates applicable on canned or preserved foodstuffs from Pacific Coast territory subject to a minimum weight of one million pounds in not more than eight cars not exceeding 51 feet in length tendered on one bill of lading. The Pacific south coast lines also published multiple-car rates subject to minima ranging between five and ten cars, principally on rock, sand, gravel, cement, iron ore and iron or steel plates and sheets.

An innovation in Western territory was a tariff provision for special freight-train service at a charge of $8.50 per train-mile.

● **Passenger fares.** There were no major changes in the basic one-way and regular round-trip passenger fares in 1965, but there were minor increases affecting one-way and round-trip coach fares on a few western railroads and adjustments in commutation fares on certain individual lines primarily in eastern territory.

In western territory, off-peak experimental excursion fares were re-established between various points in an effort to promote passenger travel.

Railroads have extended indefinitely reduced furlough fares for military personnel traveling in uniform at their own expense. Also eligible for the special rates are students at the Army, Navy, Air Force and Coast Guard academies, ROTC senior cadets and foreign military students at U.S. installations.

● **Express rates.** The ICC in Docket No. 33977 approved on Nov. 12, 1964, container rates of REA Express which have been in effect since Jan. 12, 1962. This decision is on appeal to the United States District Court for the State of Massachusetts by the New England Motor Rate Bureau, Inc., et al.

● **Free transportation.** Railroads across the nation provided free transportation during the month of December for goods donated by Americans to the people of South Vietnam in the project "America's Christmas Trains and Trucks." Cars were moved in regularly scheduled freight trains from designated centers in all parts of the country to Oakland, California for loading aboard ship.

● **Revenue averages.** The extent to which freight rates have been reduced in recent years is indicated by the ICC's index of carload freight rates which is constructed from matched segments of railroad traffic in the Commission's waybill sample. As shown in Table 14, the ICC freight rate index dropped from 121 in 1958 (1959=100) to 107 in 1964, a relative decline of 12%. Average revenue per ton-mile, which can be affected both by freight rate changes and by changes in composition of traffic, also declined by 12%, from 1.463 cents to 1.284 cents, in the same period. This average made a further decline to an estimated 1.260 cents per ton-mile in 1965, or 14% below the 1958 average. By way of contrast, the Consumer Price Index of the U.S. Department of Labor increased by nearly 10% over this 7-year span. Thus the railroads' rate reduction program continues to act as an important counter-inflationary force in the nation's economy.

Revenue per passenger-mile, on the other hand, continues to reflect a generally upward trend in passenger fares. The 1965 average of 3.20 cents represented an increase of about 10% since 1958. A rise of one-fourth in average commutation fares since 1958 has been a major factor in this increase.

Legislative activity

President Johnson, in his State-of-the-Union Message, urged "heavier reliance on competition in transportation." In his Budget Message the President again advanced this view, stating that "if the nation is to have a truly efficient system of transportation, we must revise the traditional government programs of regulation and operating

subsidies to place greater reliance on the forces of free competition." In this Message he made specific user charge proposals for application to air passenger transport, air freight, general aviation and jet fuel for commercial flying, as well as for an initial user charge on inland waterway transportation. The President also stated that he would propose increased charges on certain classes of highway users.

In his Economic Message to the Congress, President Johnson again stressed the need to revise government transport policies, "particularly by placing greater reliance on competition and private initiative in interstate transportation."

A user charge bill was introduced for the Administration as part of the excise-tax reduction proposal. Congress separated the two parts and considered only the excise taxes, except for the existing 5% surcharge on air passenger fares which was extended. In a Special Message on May 17, 1965, accompanying the proposed legislation, the President noted that recent studies by the Bureau of Public Roads "clearly show that heavy trucks are not paying fully for the additional cost of heavier pavement and other design features needed to carry them." In the matter of increasing motor vehicle size and weight limits, the President said that he "should not and must not approve legislation to relax these limits for vehicles on the Interstate System unless the Congress imposes these additional user charges."

President Johnson noted that even with the initial user charge on fuel for waterway use, the inland water carriers would be paying only "a very small fraction of the operating and maintenance costs of the waterways," wholly aside from the large amounts expended for construction. He also observed that even with the proposed changes in airline user charges, "the various classes of civil users will still be paying less than their full share of airway costs."

The Congress has not yet acted on these several proposals of the President for improved national transportation policies.

• **High-speed project.** An important step looking toward future requirements for passenger transportation was taken with the enactment of Public Law 89-220, authorizing a three-year $90-million high-speed ground transportation research and development project. Public Law 89-309, the *Supplemental Appropriations Bill*, included $18.2 million to finance the first year of this project. Bids have been asked on 50 self-propelled high-speed rail cars and other equipment to be built for a demonstration project in the Boston-Washington Corridor.

• **Retirement and health.** Major changes in the Railroad Retirement system resulted from amendments of the Social Security (OASDI) program and the Railroad Retirement Act.

Public Law 89-97, signed into law on July 30, provided for significant liberalization of benefits under the Social Security program. Because of certain statutory tie-in provisions between the Social Security and Railroad Retirement systems, many beneficiaries under the latter system became eligible for higher annuities. Increases in the tax rates under this law also affect both systems.

These changes were followed by enactment on Sept. 29 of amendments to the Railroad Retirement and Railroad Retirement Tax Acts (Public Law 89-212), which further liberalized benefit programs for railroad employees and their families and made provision for increased taxes on employees and employers. The most important changes made by the amendments to the Railroad Retirement program are: (1) The limit on taxable and creditable railroad earnings was increased from $450 to $550 a month effective Jan. 1, 1966; (2) temporarily lower tax rates were provided for the last quarter of 1965 and for the next three years; and (3) the provision reducing benefits to wives of retired railroad employees because of concurrent entitlement to Railroad Retirement or Social Security benefits was repealed.

Public Law 89-97, in addition to the OASDI amendments, also created a program of health insurance (Medicare) in which nearly all persons aged 65 and over in the country, including those under the Railroad Retirement system, will be eligible to participate. In two parts, this program provides (1) a hospital insurance plan that will pay most of the costs of hospital and related care, and (2) a voluntary medical insurance plan that will pay a substantial part of doctor bills and certain other medical expenses. Both programs will start in July 1966. To finance the hospital coverage, the act provides for an initial tax rate of 0.35% each on employee and employer, with subsequent gradual increases to 0.80% in 1987. The limit on employee earnings subject to the tax is $6,600 a year. The supplementary medical insurance program will be financed by a premium of $3.00 a month from an aged person who chooses this coverage and by matching contribution from the federal government.

'. . . Heavy trucks are not paying fully for the additional cost of design features needed to carry them.'—LBJ

• **Illegal trucking.** Public Law 89-170, the so-called "gray area" bill, provided, among other things, for (1) uniform state requirements for registration of ICC motor carrier operating authority, (2) ICC agreements with the states to enforce state and federal economic and safety laws for highway transport, (3) the ICC to obtain legal service in motor carrier enforcement proceedings regardless of where the process might be served, (4) extension of civil forfeiture proceedings to unlawful operations of motor carriers and increases in the forfeiture amounts, and (5) reparations from motor carriers and freight forwarders through direct court action by shippers. The bill also authorized the ICC to suspend or cancel rights if the holder of a water carrier certificate which is not in use fails to comply with a Commission order to resume service within a fixed time period.

• **Highway legislation.** Legislation enacted in 1965 included several measures for highway financing outside the Highway Trust Fund, which was established in 1956 to provide that federal highway programs would be supported by charges on highway users.

Public Law 89-139 authorized the Secretary of Commerce to apportion $3 billion from the Highway Trust Fund for the 1967 fiscal year for the National System of Interstate and Defense Highways. This represents an increase from the $2.9 billion previously authorized for fiscal year 1967. The law also provided that each state should enact a federally-approved safety program by Dec. 31, 1967, and authorized the Secretary of Commerce to study future highway needs.

Public Law 89-4, the *Appalachian*

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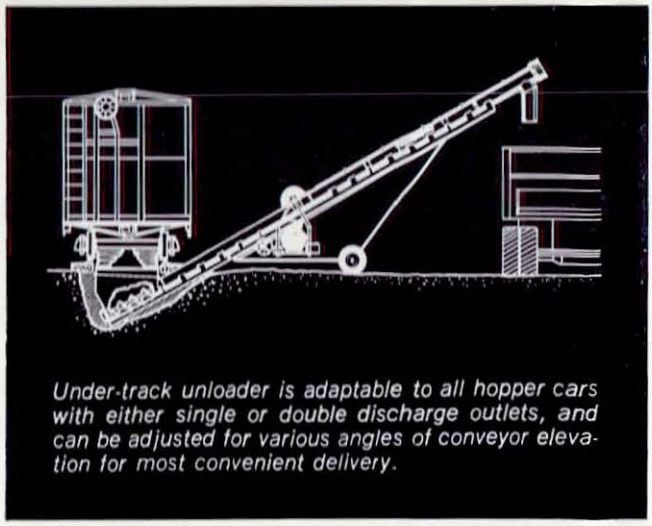

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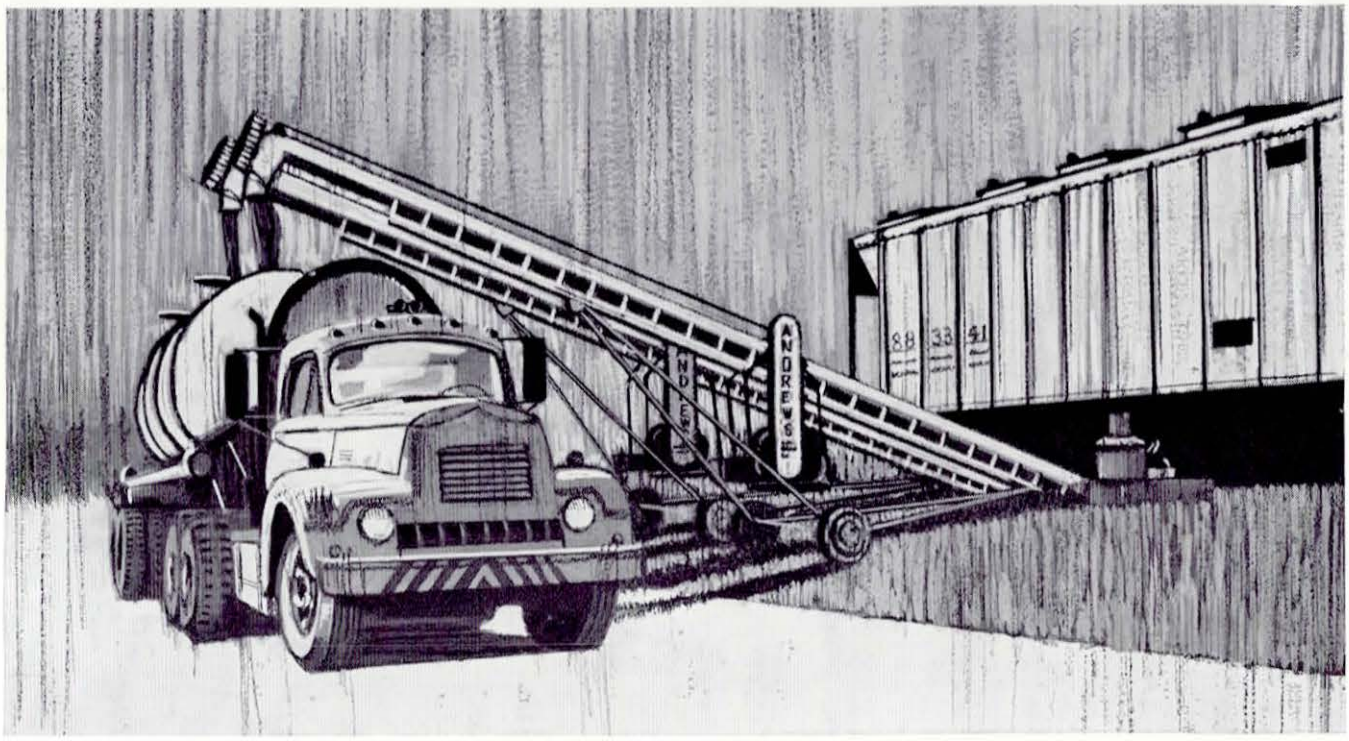

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Regional Development Act, included a federal authorization of $840 million to pay up to 70% of the construction costs of 3,350 miles of highways in the area. Funds for this project will come from the general fund rather than the Highway Trust Fund.

Public Law 89-41 provided approximately $112 million of general funds to assist the states of Washington, Nevada, California, Oregon and Idaho in reconstructing highways and forest roads damaged by floods and high waters in late 1964 and early 1965. Also, H.R. 6790, which was passed by the House but not enacted into law, would increase permanently from $30 million to $50 million annually the federal highway emergency funds used for repairing federal highways and bridges or for their reconstruction following damage caused by storms, floods, earthquakes and other serious disaster. S. 1861, a more comprehensive bill passed by the Senate, includes similar provisions. In contrast, heavy damages suffered by the railroads in these and other natural disasters are repaired at their own expense.

Public Law 89-285 authorized $320 million for a two-year program to control signboards and junkyards on interstate and primary highways and to landscape highway rights-of-way. Under the law, the federal government will pay 75% and the states 25% of the cost of removing signs within 660 feet of the right-of-way and a similar amount for the removal or screening of junkyards within 1,000 feet of the pavement. The Secretary of Commerce was empowered to withhold 10% of the highway aid funds otherwise to be granted to a state where it fails to implement this program. The program will be financed through the general fund and not the Highway Trust Fund as had been proposed by the Administration.

- **Excise tax reduction.** Public Law 89-44 abolished a number of excise taxes and extended indefinitely several others scheduled for reduction or elimination during 1965, including the 5% tax on the air transportation of passengers. The law also transferred from the general fund to the Highway Trust Fund for fiscal year 1966 and for future years approximately $70 million annually of taxes on truck parts and accessories and on lubricating oils used by highway motor vehicles.
- **Public works affecting navigation.** Public Law 89-299 provided almost $2 billion for water resource projects, including $10 million for continued construction of the Florida Barge Canal and $1.5 million to initiate construction of the Kaskaskia River development in Illinois.

Public Law 89-298 approved the billion-dollar Trinity River project in Texas and authorized a future appropriation of $83 million for initiation of its construction. More than half of the estimated total cost is for navigation purposes. This law also authorized $75,000 to study the feasibility of a de-icing system for the Great Lakes and the St. Lawrence Seaway.

Public Law 89-72 provided that in investigating or planning any federal water resource project, full consideration shall be given to the opportunities afforded for outdoor recreation and fish and wildlife enhancement. The law set forth policy standards regarding benefits and costs of such projects. Costs allocated to recreation and fish and wildlife enhancement, which would in the alternative be assigned to other causes including navigation, are not considered reimbursable.

- **State excess-crew laws.** Excess-crew repeal bills were passed in Nebraska and Oregon, the latter to be effective Jan. 1, 1967. Repeal bills were introduced, but not passed during the year, in Indiana, New York, Ohio, Washington and Wisconsin.

A three-judge federal court found that the Arkansas excess-crew law was superseded by the federal arbitration law and award. This split decision is on appeal to the U.S. Supreme Court. A County Superior Court in Indianapolis also ruled that the federal government had preempted the field and made Indiana's excess-crew law invalid. That decision was being appealed to the State Supreme Court. The Texas Supreme Court upheld lower court decisions that the excess-crew law did not apply to diesel locomotives within that state. In New York, a state court at White Plains found that state's excess-crew law constitutional (and thus effective), while a comparable court at Buffalo ruled that the federal arbitration law controls. Higher courts will have to resolve the differences between these two decisions.

- **Freight car per diem bill.** S. 1098 (H.R. 7165) which would broaden the ICC's power over per diem charges for the use of freight cars was passed by the Senate. A different bill was approved by the House Interstate and Foreign Commerce Committee. Further action was not taken.
- **Side, switching and spur tracks.** S. 1145 (H.R. 5245) would exempt from ICC authority the construction, acquisition, operation, abandonment and joint ownership or use of spur, industrial, team, switching or side tracks and terminals incidental thereto. The bill was ordered reported by a Senate subcommittee. House hearings were concluded but the bill was not reported.
- **Amendment to Railway Labor Act.** H.R. 706 would amend the Railway Labor Act by changing the role of the Railroad Adjustment Board. The bill would establish special adjustment boards to handle disputes otherwise referable to the National Board and would make final all awards of the Board. The bill was reported by the House Interstate and Foreign Commerce Committee.
- **Dual directorships.** S. 1150 (H.R. 5241) would permit membership on boards of directors of two commonly-controlled railroads without prior ICC approval. H.R. 5241 was passed by the House. An amended S. 1150 was ordered reported by a Senate subcommittee.
- **Mail.** S. 1595 (H.R. 6472), a bill enabling regulated motor carriers to transport mail on a basis other than the existing star-route bid system, was tabled by the House Committee. No action was taken on the Senate bill.

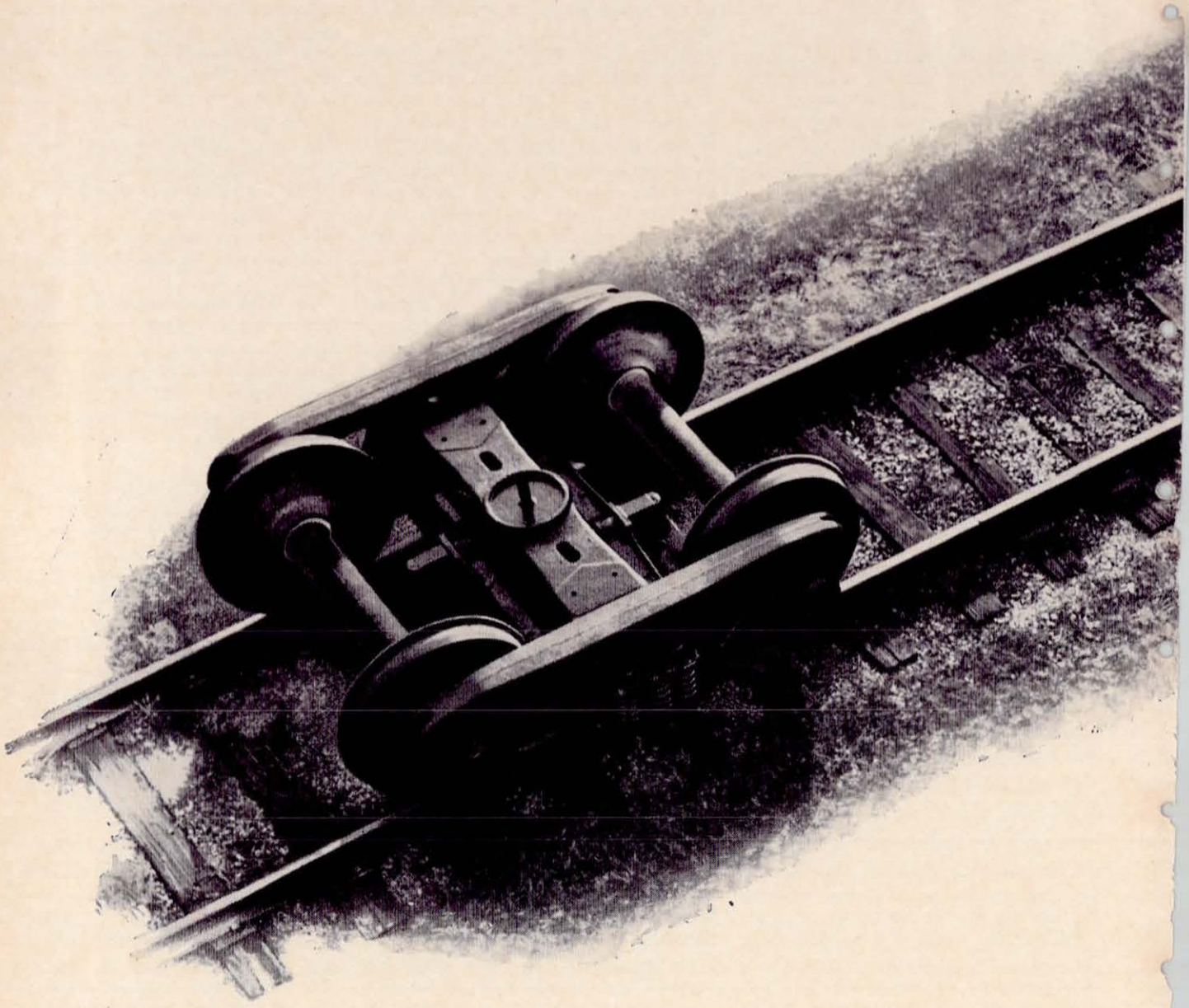
S. 1667 (H.R. 5938, and others), a bill removing all present responsibility of the Postmaster General to fix parcel post rates with the consent of the ICC and transferring this power to the Congress, was the subject of hearings in the House. The proposal would also repeal provisions of present law which, while suspended through June 30, 1966, require parcel post rates to be within 4% of the cost of such service. No action was taken on the Senate bill.

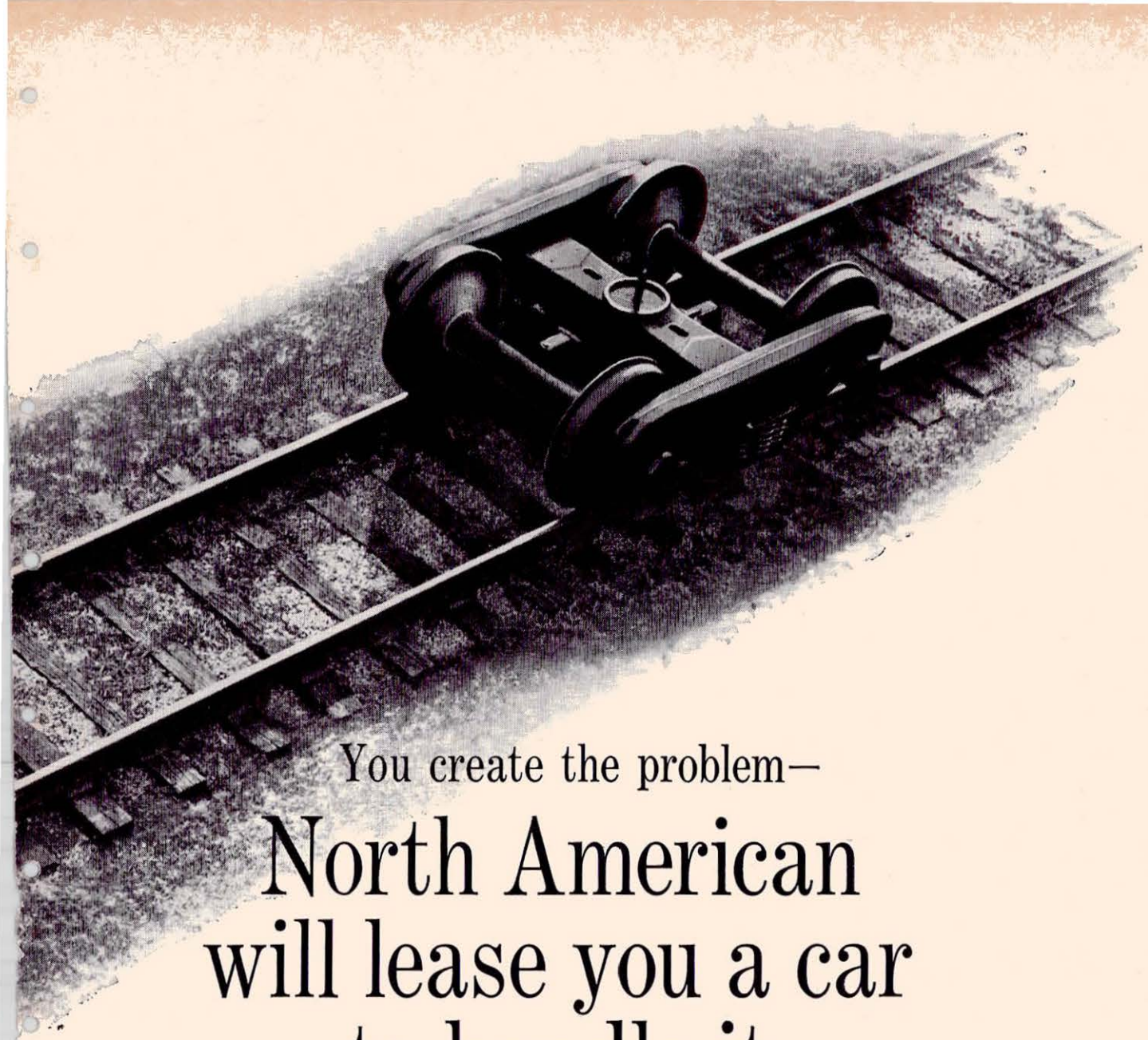
- **Uniform time system.** S. 1404 (H.R. 6481, and others), a bill setting uniform effective dates for daylight saving time, was passed by the Senate. The bill would continue local option for observance of daylight time but uniformity would be required if the option were adopted. There was no action on the companion House bills.

Other bills of interest to the railroads on which no action was taken in the first Session of the 89th Congress include:

S. 10, to place transportation unions under the anti-trust laws;

S. 1046 (S. 1151, H.R. 2593, H.R.





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5248), to allow the ICC to exempt certain motor carriers if their service is not of a kind affecting or impairing substantially the uniform regulation of motor carriage;

S. 1394 (H.R. 5693, and others), to require ICC findings in a rail passenger service discontinuance or change proceeding that (1) the public convenience and necessity require the action, and (2) to continue without the change would "constitute an unjust and undue burden upon the interstate operations" involved;

S. 1726 (H.R. 5868), to limit to war or national emergency situations the provisions of Section 22 of the Interstate Commerce Act which permits reduced rates for Government traffic;

S. 1729 (S. 1730, H.R. 5397, H.R. 5400), to provide for the issuance of certificates of exemption to cooperative and shipper associations upon application and proof of eligibility;

S. 1784 (H.R. 7168), to authorize the ICC to establish safety standards for private motor carriers;

S. 2180 (H.R. 8476, and others), to reduce the limits on hours of continuous service for certain railroad employees;

S. 2643, to prevent the ICC from approving any railroad merger or consolidation unless it conforms to an ICC-approved plan for rail mergers;

H.R. 4972 (and others) to make it unlawful for any state or subdivision thereof to assess for tax purposes property owned or used by any interstate common carrier at a value which bears a higher ratio to the true market value than other property in the taxing district;

H.R. 10433, to relax certain limitations applicable to the investment credit for income tax purposes;

H.R. 10542, (and others), to liberalize the conditions under which, and the period of time during which, a railroad will be permitted to write off for tax purposes the net operating losses of another railroad which it is acquiring through merger or consolidation;

H.R. 11436 (H.R. 11437), to permit amortization for tax purposes of railroad grading and certain other rights-of-way improvements;

H.R. 11451 (H.R. 11689), to permit, for tax purposes, the amortization of railroad reorganization expenses; and

H.R. 11798 (H.R. 11799), among other things to simplify state taxation of interstate businesses by requiring such firms to pay taxes only in those states where they maintain a business location.

Administrative proceedings

• **National Transportation Council.** A comprehensive and thorough review of government transport programs, leading to the preparation of proposed legislation for 1966, was announced by the Administration. The National Transportation Council, as the study group, was to be headed by the Undersecretary of Commerce for Transportation.

• **Railroad mergers.** Two mergers involving Class I railroads were concluded during 1965. The Pacific Electric was merged into the Southern Pacific following ICC denial of a petition for reconsideration. The merger into the Atchison, Topeka & Santa Fe of its fully-owned Texas subsidiaries, the Gulf, Colorado & Santa Fe and the Panhandle & Santa Fe also was consummated. The Atlantic Coast Line and Seaboard Air Line merger was delayed again following the Supreme Court's remanding to a lower court for broader consideration the latter's rejection of the 1963 merger approval by the ICC.

During the year the ICC approved control of the Chicago & Eastern Illinois by the Missouri Pacific, but a restraining order blocking further action was issued awaiting hearing by a three-judge court. ICC examiners proposed approving the merger of the Pennsylvania and the New York Central System, and the control of the Western Maryland by the Chesapeake & Ohio-Baltimore & Ohio railroads. The ICC denied the separate applications of the Southern Pacific and the Santa Fe to control the Western Pacific.

The following additional merger and control proposals involving Class I railroads were in various stages of consideration before the ICC at year end: 1) merger of the Chicago & North Western and the Chicago Great Western (hearings concluded); (2) merger of the Texas & Pacific and Missouri Pacific (hearings to be held); (3) merger of the Great Northern, Northern Pacific, and Chicago, Burlington & Quincy (oral argument held); (4) competing proposals by the Union Pacific to merge

ICC might levy

with, and the C&NW to control, the Chicago, Rock Island & Pacific (hearings to be held); (5) merger of the Norfolk & Western and the Chesapeake & Ohio along with the proposed acquisition and operation, by new subsidiaries, of the Erie Lackawanna, Delaware & Hudson, Boston & Maine, Reading, and Central Railroad of New Jersey (application filed); (6) merger of the Erie Lackawanna, D&H and Boston & Maine into the N&W under provisions of the previously consummated N&W and New York, Chicago & St. Louis merger (pre-hearing conference held); (7) control of the Chicago South Shore and South Bend by the C&O (application filed); (8) purchase of the Alton & Southern by the St. Louis Southwestern (application filed).

• **TOFC developments.** The ICC, in Ex Parte No. 230 decided in 1964, issued 26 new rules governing rail, motor and water carrier participation in trailer-on-flat-car (TOFC) service. Included among the rules was an "open tariff provision" which would have extended Plans III and IV to for-hire carriers at the same rates and under the same conditions as for private shippers. Various railroads and freight forwarders brought suit to enjoin and set aside this provision. A federal court decision struck down the "open tariff" proposal and remanded the case to the ICC. The three-judge court stated that the compulsion to serve motor carriers as envisioned in the Ex Parte No. 230 provision was forbidden under the Interstate Commerce Act. The ICC and the trucking industry have appealed to the Supreme Court.

• **Coordinated service.** Division 3 of the ICC approved the purchase of a motor carrier by a barge line. A petition to reconsider the decision, noting that it would reverse the long-standing precedents generally prohibiting intermodal acquisitions, was denied by the full Commission which said that the regulations applying to railroad intermodal acquisitions are not applicable when the purchaser is a water carrier. A temporary restraining order was issued by a federal court blocking implementation of the ICC decision.

Two railroads through their respective trucking subsidiaries filed applications with the ICC to control and operate a water carrier on the Arkansas and Verdigris Rivers. Proposals to provide service on the two rivers were filed in 1963 but were denied as premature by an ICC examiner who noted that the routes were unnavigable.

fees for its regulatory services

• **Rate divisions.** Eastern and western railroads petitioned the ICC to vacate its 1963 order which established a new basis for sharing revenues from transcontinental rates. A modified agreement by the carriers would increase the existing share of transcontinental revenue earned by eastern carriers but to a lesser extent than was provided in the Commission order. Some Midwestern carriers asked the ICC to deny the petition to vacate its 1963 order.

The ICC ordered a new division of rates on North-South traffic which would increase the share earned by northern carriers. This decision in Docket No. 29885 was appealed by 42 southern carriers, thereby postponing the effective date of the Commission's order.

• **Freight car hire.** ICC examiners in proposed reports made public on Dec. 23, 1965, recommended that the Commission find unreasonable certain features of existing systems of per diem rentals for railroad-owned cars and mileage rentals for private tank cars.

In the per diem case, embracing Dockets No. 31358, 33145 and 34405, the examiner concluded that certain past rates were—and the two lowest of present multi-level rates are—excessive; that use of reproduction cost for depreciation and interest allowances imposes an undue burden on car users; and that rates should reflect a mileage as well as a time factor.

In the proceeding involving tank car mileage allowances, Dockets 34480 and I&S 8135, the hearing examiner recommended that railroads discontinue the practice of paying tank car mileage allowances to shippers who furnish their own or leased cars, and that in lieu of such allowances the railroads reduce freight rates to reflect the lesser transportation service performed. As an alternative, the report suggested that present and proposed mileage allowances be replaced with charges more accurately reflecting the cost of tank car ownership, in conformity with principles and guidelines outlined therein.

• **ICC rules and procedures.** The Commission announced that it was considering the imposition of fees for its regulatory services. The proposal encompasses 23 filing fees ranging from $5 to $200.

In an effort to expedite the handling of formal cases before it, the ICC changed its Rules of Practice. The new procedures (1) limit the time for filing briefs in orally-heard cases to a maximum of 45 days following the close of the hearing; (2) fix for all parties the same filing period; and (3) eliminate the filing of replies to briefs.

• **Interstate Highway System.** The ICC, in Ex Parte No. MC-65 and No. MC-65 (Sub-No. 2), began studying the effect of the National System of Interstate and Defense Highways and other limited access routes on regular-route truck and bus operations. Consideration is to be given to the revision of existing operating rights where they do not now permit the use of such highways. The investigation will be handled in two parts, one for passenger service and the other for freight. A pre-hearing conference was held in 1965.

• **Grade-crossing investigation.** An appeal has been filed with the Supreme Court by the trucking industry in ICC Docket No. 33440, wherein a District Court supported the Commission's decision. The appeal, among other questions, challenged the Commission's ruling that it had the power to write safety regulations for motor vehicles but that it would not encroach on the police power of the states where rail-highway grade-crossing safety was at issue.

The ICC in Ex Parte No. MC-40 expanded the mandatory stop requirement at grade crossings to include motor vehicles carrying flammable liquids with a flashpoint below 200° Fahrenheit.

• **Highway cost study.** The Bureau of Public Roads issued its *Supplementary Report of the Highway Cost Allocation Study* during 1965. It showed that under the incremental cost method the large trucks, especially those diesel-powered, failed by a substantial margin to pay in user charges amounts to cover their cost responsibility for road damage. Deficiencies of payments for large diesel-powered trucks also were shown by a "differential benefit" measure, but the Bureau of Public Roads noted that this technique is "experimental in character" and that "the greater reliance should be placed on the findings of the incremental method."

During 1965, the Secretary of Commerce reported to the Congress a reestimate of the cost of the National System of Interstate Highways showing the projected completed cost to be $46.8 billion, or $5.8 billion more than was estimated in 1961. The increase resulted from changes in design for increased safety, service and highway life as well as additional costs of land acquisition and increased engineering and construction costs.

• **Priority mail system.** An Advisory Panel on Postal Rates recommended to the Postmaster General a new class of service which would merge the present first class and air mail systems into one. The Panel suggested a rate for the priority system higher than the present first class.

• **Proposed sale of REA stock.** The Interstate Commerce Commission postponed indefinitely its order authorizing the Greyhound Corporation to purchase a 20% ownership interest in REA Express.

• **REA Express cases.** An ICC examiner, in Ex Parte No. 242, stated that terminal areas of express companies should be subject to the same limits as those imposed on motor carriers and freight forwarders since the various carriers involved compete for "substantially the same traffic."

Another express case embracing 524 proceedings was begun to consider REA petitions to modify or remove the restriction found in many of its operating rights that transportation performed by the express company be immediately prior or subsequent to a rail move.

• **Union liability for strike threats.** A Federal District Court awarded a sum equal to the net business profit lost by a railroad when a major shipper diverted its traffic because of a strike threat. The court found the union was liable for damages because it had failed to exhaust the remedies provided in the Railway Labor Act.

• **Severance allowances.** The Internal Revenue Service during 1965 held that the separation or severance allowances made under the award of Arbitration Board No. 282 pertaining to dismissed employees were subject to the withholding tax provisions and to the Railroad Retirement tax.

• **Locomotive inspection rules.** A proposal to amend more than 50 ICC rules for inspecting and testing non-steam locomotives was docketed as Ex Parte No. 243. Hearings were held during 1965 on such proposed changes as extension of the 30-day general inspection period to 91 days and extension of the 6-month compulsory provision for disassembly of brake components to 12 and 24 months.

• **Track motor and push cars.** The ICC adopted new safety appliance standards for track motor cars and push cars to become effective Jan. 1, 1967. The standards, resulting from Docket No. 32248, apply only when these vehicles are coupled and move together. The rules apply to such matters as hand brakes, handholds, sill steps or footboards and couplers. ■

1965 STATISTICAL REVIEW

RAILROAD SIGNALING INSTALLED IN 1965

Railroad	Highway Grade Crossings		Centralized Traffic Control				Interlockings				Miscellaneous Signal
	Flashing light signals	Flashing light signals & gates	Road Miles	Switches	Electric Locks	Signals	No. of Plants	Switches	Signals	Detectors †	Units *
Alaska	2	..	..	..	..	..	..	..	..	..	..
AC&HB	1	..	..	..	..	..	..	..	..	..	..
AT&SF	50	26	..	..	..	..	..	..	..	14	25
ACL	22	5	13	5	..	19	2	..	10	17	..
B&O	8	8	55	9	4	52	8	18	55	2	7
BAR	1	..	..	..	..	..	..	..	..	..	..
BRC	..	..	..	..	..	..	1	1	1	..	..
B&LE	..	1	2	..	2	3	..	..	..	..	..
B&M	2	2	15	1	7	13	4	..	5	1	10
CN	183	24	122	26	21	81	7	30	68	..	8
CV	3	..	..	..	..	..	..	..	..	..	..
GTW	9	9	..	..	..	..	..	..	..	..	..
CP	143	15	185	57	28	261	..	..	..	..	63
CNJ	1	5	..	..	..	..	2	5	6	1	13
C&O	35	8	2	11	2	19	3	9	21	2	5
C&EI	..	1	3	..	3	..	..	..	..	1	4
C&NW	41	11	36	6	14	44	4	16	42	6	133
C&WI	..	1	..	..	..	..	..	..	..	..	..
CB&Q	10	11	39	14	25	81	..	..	..	..	..
CMStP&P	16	16	..	..	..	..	4	18	30	..	2
CRI&P	13	4	..	..	..	..	..	..	..	..	12
CSS&SB	..	..	..	..	..	..	..	..	..	..	6
CTA	..	..	..	..	..	..	1	4	6	..	2
Clinchfield	1	..	..	..	..	..	..	..	..	4	..
C&S	3	..	..	..	..	..	..	..	..	..	..
FW&D	1	..	..	..	..	..	..	..	..	..	..
D&H	2	5	46	8	12	22	..	..	..	4	..
D&RGW	8	1	..	..	..	..	..	..	..	31	26
DT&I	..	1	..	..	1	1	..	..	..	..	..
AA	6	1	..	..	..	..	..	..	..	..	..
DM&IR	1	..	2	5	..	6	..	..	..	..	2
EJ&E	1	1	..	..	..	..	..	..	..	1	..
E-L	6	8	..	..	..	..	1	13	11	5	21
FEC	22	16	98	12	39	120	4	..	22	8	21
GN	15	4	51	14	21	43	..	..	..	3	..
GB&W	2	..	..	..	..	..	..	..	..	..	..
GM&O	6	1	18	2	3	15	1	..	5	7	..
IC	21	6	37	22	21	75	..	..	..	..	8
KCT	..	..	..	..	..	..	1	1	..	..	..
LS&I	3	1	6	5	..	3	..	..	..	..	2
LV	4	2	50	5	16	61	3	10	12	1	..
LI	3	8	..	..	..	..	..	..	..	..	..
L&N	10	2	10	10	2	22	2	2	8	41	12
MEC	3	1	9	4	2	7	..	..	..	..	..
MKT	6	..	..	..	..	..	1	..	..	..	..
MP	9	2	62	9	10	31	..	..	..	1	6
Monon	3	1	..	..	..	..	..	..	..	..	2
Monongahela	1	..	..	..	..	..	..	..	..	..	..
NYC	33	43	213	11	42	81	11	47	100	120	6
NYCTA	1	..	..	..	..	..	8	76	142	1	118
NYNH&H	3	1	..	..	..	..	..	..	..	..	..
N&W	19	11	34	6	5	36	3	15	17	10	7
NS	2	..	..	..	..	..	..	..	..	..	..
NP	9	4	72	24	8	58	1	..	6	10	404
ONL	4	..	..	..	..	..	1	..	..	..	1
PRR	22	34	21	1	3	10	11	55	74	1	236
ONS&L	..	..	..	1	..	..	..	..	..	2	..
Reading	..	4	19	1	22	14	4	16	..	..	11
RF&P	..	..	..	..	..	..	..	..	..	3	..
StL-SF	17	1	101	10	18	96	..	..	..	4	1
SAL	34	14	167	40	45	203	1	..	..	3	8
SOO	11	..	9	9	2	36	..	..	..	2	..
Southern	16	3	74	29	99	147	2	25	38	..	7
SP&S	1	..	..	..	..	..	..	..	..	..	..
TRRStL	..	1	..	..	..	..	..	..	..	..	..
TH&B	3	1	..	..	..	..	..	..	..	..	..
Union	..	..	..	..	..	..	1	4	2	1	1
UP	18	17	42	17	10	67	..	..	..	41	33
WM	5	4	..	..	..	..	..	..	..	..	17
WP	7	3	..	..	..	..	..	..	..	..	..
Totals	882	349	1,613	374	487	1,727	28	365	681	348	1,240

† Detectors include high load, hotbox, dragging equipment, broken or loose wheel, wide load, and presence.
* Includes automatic train stops, cab signals, automatic block signals, retarders, non-interlocked power switches, spring switches and electric locks not in CTC Territory, snow melters (switch heaters), and electric switch lamps.

RAILROAD COMMUNICATIONS INSTALLED IN 1965

Railroad	Radio			Intercommunications			Carrier Equipment Terminals and Repeaters			Telephone			
	Mobile	Base	Walkie-Talkies	No. of Yard Loud-speaker Systems	Loud-speakers	Tele-phones	Voice	Speech + Tele-graph	Tele-graph	Ex-changes	Stations Available	Tele-type-writers	Micro-wave Stations
Alaska	..	2	8	..	..	..	..	..	..	..	..	..	..
AC&HB	..	..	6	..	..	..	8	..	..	..	..	2	..
A&S	..	1	26	..	..	..	..	..	..	..	..	..	..
AT&SF	111	..	..	..	..	..	..	..	..	..	..	..	..
A&WP	..	1	..	..	..	..	..	..	..	..	..	..	..
Ga	1	1	6	..	..	..	..	..	..	..	..	..	..
WRyA	1	..	2	..	..	..	..	..	..	..	..	..	..
ACL	61	8	166	..	..	..	16	..	..	1	50	..	..
B&O	88	5	33	3	40	..	59	4	..	1	100	79	..
BRC	..	1	7	..	..	..	..	..	..	..	..	1	..
B&LE	11	3	29	4	27	2	..	..	..	..	..	..	..
B&M	27	3	9	1	6	..	..	..	..	..	..	..	..
CN	112	21	14	2	57	24	1,226	2	1,626	15	3,800	1,797	..
CP	101	48	112	6	3	16	234	..	716	2	21	..	..
CNJ	13	..	10	..	..	..	..	..	..	1	120	14	..
C&O	206	34	200	2	31	..	..	..	..	1	35	..	..
C&EI	9	..	8	1	5	..	..	..	..	..	..	..	..
C&NW	561	..	782	..	..	..	40	..	30	2	200	10	..
C&WI	13	..	13	..	..	..	..	..	..	..	..	..	..
CB&Q	59	20	..	3	17	17	38	12	1	..	..	16	..
CGW	1	2	..	..	..	..	..	..	..	..	..	..	..
CMStP&P	28	1	21	3	40	..	..	2	50	..	..	130	..
CRI&P	103	3	35	..	..	..	12	16	..	1	200	18	..
CSS&SB	2	1	4	..	..	..	..	..	..	..	..	..	..
CTA	240*	9*	58*	1	12	..	..	..	..	..	..	..	..
Clinchfield	4	1	7	..	..	..	..	..	..	..	..	..	..
D&H	2	2	6	..	..	..	..	..	..	..	..	..	..
D&RGW	25	8	14	..	..	..	..	..	..	..	..	..	..
DT&I	..	1	6	..	..	..	..	..	..	..	..	..	..
AA	..	..	..	..	..	..	..	..	..	..	..	1	..
DM&IR	5	..	9	..	..	..	3	..	1	..	..	2	..
EJ&E	1	..	2	..	..	..	..	..	..	..	..	..	..
E-L	..	1	2	3	19	..	12	6	..	..	..	10	..
FEC	..	..	..	1	12	..	..	..	..	..	..	..	..
FW&D	..	..	..	..	..	..	2	..	..	..	..	1	..
GN	167	10	115	1	19	1	57	3	2	4	447	2	4
GB&W	3	..	..	..	..	..	..	..	..	..	..	..	..
GM&O	35	5	3	5	5	..	20	..	14	1	10	..	..
IC	205	19	551	..	..	..	52	12	14	1	60	68	..
K&IT	..	..	12	..	..	..	..	..	..	..	..	..	..
LS&I	3	..	..	..	..	..	..	..	..	..	..	..	..
L&HR	..	..	3	..	..	..	..	..	..	..	..	1	..
LV	2	..	2	..	..	..	..	..	2	..	..	1	..
L&N	669	62	944	1	12	..	17	..	40	2	280	..	..
MEC	3	..	12	1	5	..	..	..	..	..	..	6	..
MKT	..	..	..	..	..	..	..	..	..	..	..	1	..
MP	23	33	13	2	12	30	29	7	27	3	150	56	..
Monon	..	..	4	..	..	..	..	..	..	..	..	..	..
Monongahela	..	..	3	..	..	..	..	..	..	..	..	..	..
NYC	248	84	81	5	80	6	10	..	..	..	..	71	..
NYCTA	165	12	66	..	..	..	..	..	..	..	..	..	..
N&W	40	12	22	1	19	..	10	8	..	1	100	14	..
NP	25	2	20	..	..	..	16	..	..	3	85	13	..
ONL	..	..	..	2	6	..	40	..	20	2	600	116	..
PGE	29	3	3	..	..	..	65	..	..	3	90	3	1
PRR	240	40	334	3	21	..	41	..	..	3	..	30	..
P&N	1	..	..	..	..	..	..	..	..	..	..	2	..
QNS&L	..	..	..	..	..	..	28	..	2†	..	..	5	6
Reading	5	..	5	1	..	..	2	..	..	..	..	4	..
RF&P	..	8	32	1	75	..	..	..	..	..	..	..	..
StL-SF	44	4	30	..	..	..	..	..	..	..	..	49	..
SAL	35	18	192	..	..	..	14	..	8	..	..	5	..
SOO	19	7	25	1	6	..	5	..	..	..	..	..	..
Southern	81	8	34	1	6	..	1,070	..	..	6	600	10	152
SP&S	11	3	4	..	..	..	9	..	..	..	..	..	..
TH&B	..	..	2	..	..	..	..	..	..	..	..	4	..
Union	45	..	22	..	..	..	..	..	..	..	..	..	..
UP	169	2	8	2	5	2	18	..	..	..	..	..	32
WM	7	..	42	..	..	..	2	..	..	..	..	1	..
WP	30	..	3	..	..	..	2	10	2	1	40	..	..
Totals	3,850	500	4,124	57	540	98	3,157	82	2,553	54	6,988	2,563	195

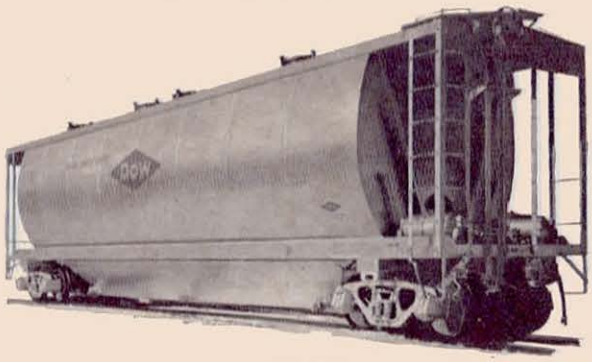
* Carrier current units.
† Broadcast.

1965 FREIGHT-TRAIN CAR ORDERS

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Akron, Canton & Youngstown	150	Box	140,000	50	6-1/16	60,400	Oct.	Aug. '66	Pullman-Standard
	20	Cov. Hopper	200,000	49	9	65,400	July	July	ACF
	20	Cov. Hopper	200,000	53	3	66,600	Nov.	May, '66	ACF
Alaska	12	Mech. Refrig.	140,000	50	9	87,000	July	Mar. '66	Pacific Car & Foundry
Aliquippa & Southern	20	Gondola	200,000	35	..	74,400	Feb.	Aug.	Company Shops
	20	Gondola	200,000	34	..	74,400	May	Nov.	Company Shops
	20	Gondola	200,000	34	..	74,400	June	Mar. '66	Company Shops
Allied Chemical	12	Cov. Hopper	200,000	58	4	56,800	July	Jan. '66	Magor Car
American Refrigerator Transit	300	Ins. Box	140,000	51	1	75,500	Junly	Feb. '66	ACF
	75	Flat	140,000	89	..	74,800	Sept.	Oct.	Bethlehem Steel
	25	Cov. Hopper	200,000	48	11	71,800	Sept.	April, '66	GATC
	300	Box	200,000	60	8-5/8	77,300	Mar.	Oct.-Nov.	ACF
Atchison, Topeka & Santa Fe	200	Box	140,000	50	6	.....	Jan.	June	ACF
	65	Box	140,000	86	6	.....	Jan. '64	2nd Quart.	Thrall Car
	500	Box	140,000	50	6	.....	Jan. '64	3rd Quart.	Company Shops
	4	Box	200,000	60	8-1/2	.....	June	Aug.	Pullman-Standard
	33	Box	140,000	86	6	.....	Dec. '64	Aug.	Greenville Steel Car
	144	Box	140,000	40	..	.....	Nov.-Sept'64	2nd Quart.	Transco
	25	Box	140,000	60	4	.....	Nov. '64	Dec.	Company Shops
	900	Box	140,000	50	6	.....	Oct.	4th Quart. '65-1st Quart. '67	Company Shops

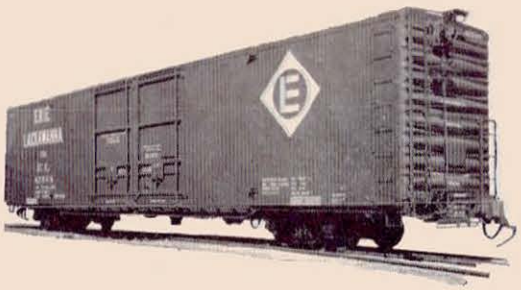
the answer to better car

.....from nuts

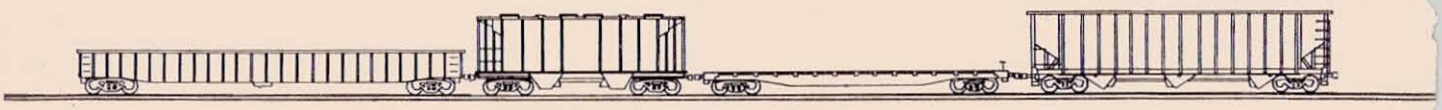


to steel coils

to automobile engines



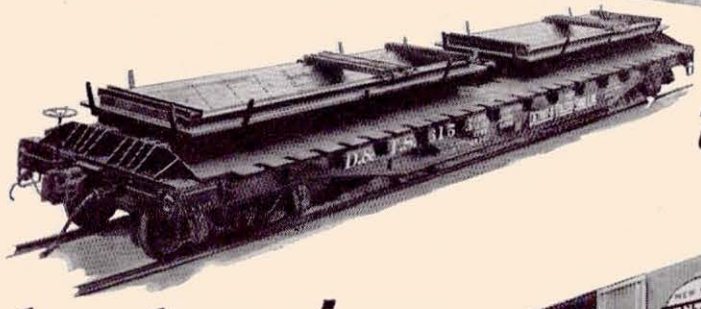
move faster, with less handling



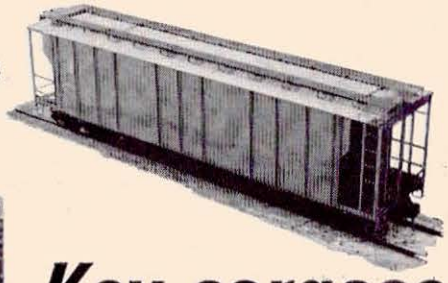
utilization may be here

to wheat

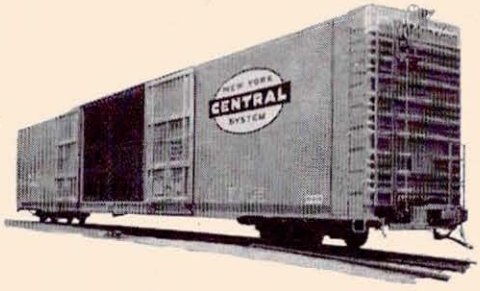
to chemicals



to salt



to stampings



Key cargoes

cost, in Greenville's newest designs.

Each of these Greenville cars came into being *to help someone move something from here to there* at lower cost. You should know more about them. They speed loading and unloading, protect lading from damage, incorporate the newest metals and specialty items, travel more miles with less maintenance and stay in revenue service longer. If you view railroading as a resurgent industry, headed into a new era involving new techniques and advanced, more profitable equipment, talk with Greenville about these cars. They can help you improve your profit picture.

GREENVILLE **STEEL CAR COMPANY**
Subsidiary of Pittsburgh Forgings Company
GREENVILLE, PENNSYLVANIA

Circle 41 on reader service card

1965 FREIGHT-TRAIN CAR ORDERS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Atchison, Topeka & Santa Fe (Continued).....	246	Box	.....	60	9	.....	Jan. '64	Apr.-Sept. '66	Pullman-Standard
	50	Box	140,000	86	6	.....	Oct.	May '66	Thrall Car
	25	Box	140,000	86	6	.....	Nov.	Sept. '66	Thrall Car
	100	Bulkhead Flat	140,000	53	6	.....	Nov. '64	2nd Quart.	Company Shops
	100	Flat	140,000	53	6	.....	Nov. '64	1st Quart.	Company Shops
	200	Flat	140,000	89	..	.....	Apr.	4th Quart.	GATC
	100	Flat	140,000	63	6	.....	Feb.	Nov.-Dec.	Thrall Car
	125	Flat	140,000	89	4	.....	Nov.-Dec.	3rd Quart.	Company Shops
	184	Flat	140,000	89	..	.....	July	Dec. '65-Mar. '66	Whitehead & Kales
	100	Flat	140,000	53	6	.....	Oct.	Jan. '66	Company Shops
	30	Flat	140,000	89	..	.....	Nov.	Mar. '66	ACF
	100	Flat	140,000	53	6	.....	Feb.	Mar. '66	Company Shops
	100	Flat	140,000	53	6	.....	Oct.	May '66	Company Shops
	100	Flat	140,000	89	.....	.....	Oct.	Aug. '66	Company Shops
	50	Cov. Gondola	140,000	52	6	.....	July	1st Quart. '66	Transco
	75	Gondola	140,000	48	11	.....	Jan.	July	GATC
	100	Gondola	140,000	65	6	.....	Feb.	Oct.	Transco
	200	Gondola	140,000	52	6	.....	June	4th Quart.	Greenville Steel Car
	101	Gondola	200,000	46	3-1/4	.....	Aug.	1st. Quart. '66	Transco
	1,000	Cov. Hopper	140,000	49	6-5/16	63,000	Nov. '64	Mar.-Apr.	Pullman-Standard
	40	Cov. Hopper	140,000	40	8	.....	Jan. '64	2nd Quart.	GATC
	20	Cov. Hopper	200,000	49	9	66,400	May	Aug.	ACF
	500	Cov. Hopper	200,000	50	2-9/16	.....	Nov.	May '66	GATC
	1,500	Cov. Hopper	200,000	49	6-5/16	63,000	July	Dec.	Pullman-Standard
	200	Hopper	140,000	40	8	51,700	Feb.	Aug.	Greenville Steel Car
	2	Hopper	200,000	35	6	56,400	Sept.	Jan. '66	B. F. Goodrich
	400	Refrig.	140,000	50	6	.....	Nov. '64	4th Quart.	Company Shops
	700	Refrig.	140,000	50	6	.....	Oct.	Feb.-Aug. '66	Company Shops
Atlantic Coast Line.....	1	Box	140,000	50	7	66,800	May	May	Company Shops
	2	Box	140,000	60	..	89,300	Mar.	Aug.	Pullman-Standard
	300	Box	140,000	50	6	77,700	Apr.	Nov.	Pullman-Stnadard
	500	Box	140,000	50	6	65,100	Apr.	Dec. '65-Jan. '66	Pullman-Standard
	200	Box	100,000	40	6	51,900	Apr.	Jan. '66	Pullman-Standard
	500	Gondola	140,000	52	6	.....	Sept.	Feb.-Apr. '66	Pullman-Standard
	75	Bulkhead Flat	180,000	61	..	78,000	May	Dec. '65-Jan. '66	Evans Products
	800	Cov. Hopper	200,000	41	1	59,600	Apr.	Aug.-Sept.	Pullman-Standard
	200	Cov. Hopper	200,000	34	7-3/8	61,500	May	Dec.	Bethlehem Steel
	100	Cov. Hopper	200,000	54	1	.....	Oct.	Jan. '66	Magor Car
	14	Pulpwood	140,000	45	6	55,400	Apr.	July	General Steel Ind.
	200	Pulpwood	140,000	45	1	55,400	May	Dec. '65-Apr. '66	General Steel Ind.
Baltimore & Ohio.....	35	Box	140,000	50	6	75,400	Jan.	Nov.	Company Shops
	115	Box	140,000	50	6	70,400	Jan.	Dec.	Company Shops
	135	Box	140,000	60	8-1/2	87,000	Apr.	Jan. '66	Company Shops
	42	Box	140,000	60	8-1/2	87,000	May	Feb. '66	Company Shops
	91	Box	200,000	60	8-1/2	87,000	May	Feb. '66	Company Shops
	215	Box	140,000	60	8-1/2	87,000	May	Mar. '66	Company Shops
	29	Box	140,000	86	6	117,000	Nov.	Jan. '66	Thrall Car
	28	Box	140,000	60	8-1/2	89,000	Nov.	1966	Company Shops
	9	Box	200,000	60	8-1/2	89,000	Nov.	1966	Company Shops
	46	Caboose	.....	30	..	67,300	May	Jan. '66	Intenational Car
	100	Gondola	200,000	52	5	85,000	Nov.	1966	Bethlehem Steel
	25	Cov. Hopper	200,000	53	3	68,000	May	July-Sept.	ACF
	40	Cov. Hopper	200,000	41	3-1/4	61,900	May	Sept	ACF
	100	Cov. Hopper	200,000	29	3	56,500	May	Oct.	Pullman-Standard
	250	Cov. Hopper	200,000	..	..	.....	Nov.	1966	Thrall Car
	40	Auto Rack	140,000	89	..	80,000	Jan.	Feb.	Whitehead & Kales
	62	Auto Rack	140,000	89	..	93,000	July	Oct. '66	Whitehaed & Kales
	16	Auto Rack	140,000	89	..	76,000	July	Oct. '66	Whitehead & Kales
Bessemer & Lake Erie.....	4	Box	140,000	60	..	75,000	Nov.	Jan. '66	ACF
Bangor & Aroostook.....	56	Mech. Refrig.	132,000	50	..	85,900	Jan.	Sept.	Pacific Car & Foundry
	200	Box	150,000	50	..	69,000	Aug.	Apr. '66	GATC
	200	Box	150,000	50	..	69,000	Aug.	Aug. '66	Pullman-Standard
Bethlehem Steel, Johnstown Plant.....	32	Flat	200,000	41	1/2	51,000	Aug.	Dec.	Bethlehem Steel
Central of New Jersey.....	11	Gondola	140,000	65	6	63,300	Apr.	Nov.	Reading Co. Shops
Chesapeake & Ohio.....	131	Box	140,000	60	8	89,900	Dec. '64	Sept.	Company Shops
	64	Box	200,000	60	9	128,000	Sept.	Feb. '66	Company Shops
	59	Box	140,000	60	9	89,900	Sept.	Feb. '66	Company Shops
	12	Box	200,000	60	9	129,800	Nov.	May '66	Company Shops
	50	Box	140,000	60	9	89,900	Oct.	May '66	Company Shops
	77	Box	140,000	86	6	73,600	Oct.	Oct. '66	Thrall Car
	100	Coil Steel Flat	200,000	49	2	67,000	Oct.	Dec.	Evans Products
	100	Cov. Hopper	200,000	29	3	56,600	Sept.	Oct.	Pullman-Standard
Chicago, Burlington & Quincy.....	20	Box	200,000	60	10	75,900	Jan.	July	Pullman-Standard
	70	Box	200,000	60	8	85,800	Jan.	July-Aug.	Pullman-Standard
	10	Box	154,000	60	10	75,900	Jan.	Oct.	Pullman-Standard
	7	Box	110,000	86	6	112,400	Dec. '64	Dec.	Thrall Car
	100	Box	200,000	60	..	.....	Oct.	Sept. '66	Company Shops
	3	Box	110,000	86	6	112,400	Dec.	Sept. '66	Thrall Car
	400	Box	154,000	50	6	60,300	Oct. '64	Apr.-June '66	Company Shops
	400	Box	154,000	50	6	60,300	Oct.	June-July '66	Company Shops
	8	Ins. Box	154,000	50	1	85,000	June	Dec.	Fruit Growers Ex.
	200	Flat	154,000	60	..	63,000	Oct.	Sept.-Nov. '66	Company Shops
	100	Flat	154,000	53	6	71,700	Oct.	July-Aug. '66	Company Shops
	100	Gondola	200,000	52	6	.....	Oct. '64	Dec.	Company Shops
	100	Gondola	200,000	52	6	.....	Oct.	Aug.-Sept. '66	Company Shops
	500	Cov. Hopper	200,000	46	..	63,600	Oct.	Jan.-Feb. '66	ACF
	400	Cov. Hopper	200,000	38	..	.....	Sept.	Jan.-Feb. '66	ACF
	3	Airslide Cov. Hopper	200,000	48	11	72,300	Aug.	Sept.	GATC
	50	Airslide Cov. Hopper	200,000	48	11	72,300	Oct.	Jan.-Feb. '66	GATC
	200	Hopper	200,000	49	7	65,500	Oct.	Apr.-May'66	Bethlehem Steel
	200	Refrig.	200,000	60	..	.....	Oct. '64	Jan.-Apr. '66	Company Shops
Chicago & Eastern Illinois.....	10	Box	200,000	60	..	82,500	June	Apr. '66	Company Ships
	25	Cov. Gondola	200,000	52	6	70,000	June	Mar. '66	Thrall Car
	100	Gondola	140,000	52	6	66,000	June	Mar. '66	Thrall Car
	25	Gondola	140,000	65	6	73,100	June	Jan. '66	Greenville Steel Car
	200	Hopper	200,000	51	6	64,000	June	Jan. '66	Greenville Steel Car
Chicago, Milwaukee, St. Paul & Pacific	10	Box	140,000	50	..	64,200	Mar.	Aug.	ACF
	4	Box	200,000	60	..	79,700	Aug.	Feb. '66	ACF
	33	Box	140,000	60	..	75,000	Aug.	Jan. '66	ACF
	4	Box	140,000	86	6	.....	Sept.	July '66	Pullman-Standard
	18	Box	140,000	86	6	86,000	Aug.	May '66	Thrall Car
Chicago & North Western.....	22	Box	140,000	86	6	113,000	Jan.	July	Pullman-Standard
	75	Box	140,000	60	9	89,900	Jan.	Sept.	Pullman-Standard
	33	Box	200,000	60	9	91,000	Jan.	Sept.	Pullman-Standard
	24	Box	140,000	60	10-1/8	80,000	Feb.	Sept.	Pullman-Standard
	7	Box	200,000	60	9	92,000	Dec.	Feb. '66	ACF
	34	Box	140,000	60	9	87,000	Dec.	Mar. '66	Pullman-Standard

1965 FREIGHT-TRAIN CAR ORDERS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Chicago & North Western (Continued)	20	Box	140,000	86	6	113,000	Dec.	Apr. '66	Pullman-Standard
	73	Box	140,000	60	9	89,600	Dec.	July '66	Pullman-Standard
	314	Box	140,000	50	6	68,000	Dec.	Sept. '66	Pullman-Standard
	7	Ins. Box	140,000	50	1	80,400	Jan.	Dec.	GATX
	87	Ins. Box	200,000	50	1	85,600	Jan.	Dec.	GATX
	50	Caboose	80,000	30	..	47,000	Dec.	Apr. '66	International Car
	45	Airslide Cov. Hopper	140,000	29	6	55,400	Jan.	May	Pullman-Standard
	100	Cov. Hopper	200,000	49	..	63,000	Jan.	June	Pullman-Standard
	500	Cov. Hopper	200,000	49	6	63,000	Dec.	June '66	Pullman-Standard
	150	Cov. Hopper	200,000	29	3	57,500	Dec.	June '66	Pullman-Standard
	150	Cov. Hopper	200,000	34	9	57,000	Dec.	Aug. '66	ACF
Chicago, Rock Island & Pacific	3	Box	200,000	60	10-1/2	85,900	Mar.	Aug.	Pullman-Standard
	22	Box	200,000	60	10-1/2	88,200	Mar.	Sept.	Pullman-Standard
	1,000	Box	100,000	40	6	48,300	Mar.	Nov.	Pullman-Standard
	1	Box	140,000	86	..	118,000	Mar.	Nov.	Thrall Car
	50	Box	140,000	50	1	82,000	June	Dec.	GATC
	100	Box	140,000	..	..	166,200	May	Mar. '66	ACF
	100	Box	200,000	60	9	80,700	June	Mar. '66	Pullman-Standard
	51	Box	200,000	60	9	80,700	June	Mar. '66	Pullman-Standard
	4	Box	140,000	86	..	.....	June	July	Pullman-Standard
	200	Box.	140,000	50	6	76,000	Dec.	Oct. '66	Pullman-Standard
	200	Ins. Box	140,000	50	1	81,700	Jan.	Nov.	GATC
	25	Ins. Box	180,000	60	9	.....	May	1st Quart. '66	Evans Products
	10	Caboose	.....	30	..	.....	June	Sept.	International Car
	10	Caboose	.....	30	..	.....	Dec.	Mar. '66	International Car
	150	Flat	140,000	60	..	58,000	Feb.	Oct.	ACF
	50	Flat	140,000	53	6	.....	Nov.	June	General Steel Ind.
	50	Cov. Gondola	200,000	52	6	75,700	Feb.	Sept.	Ortner
	100	Gondola	140,000	52	6	65,500	Jan.	Sept.	Pullman-Standard
	100	Gondola	200,000	52	6	69,100	Jan.	Sept.	Pullman-Standard
	100	Gondola	140,000	52	6	65,500	May	Jan. '66	Thrall Car
	50	Gondola	200,000	65	6	71,300	Nov.	Mar. '66	Magor Car
	30	Gondola	200,000	52	6	75,700	Nov.	June '66	Ortner
	646	Cov. Hopper	200,000	49	6-5/16	63,000	May	Sept.	Pullman-Standard
	30	Hopper	180,000	48	11	72,650	Nov.	1st Quart. '66	GATC
	30	Hopper	140,000	29	6	56,500	Nov.	2nd Quart. '66	GATC
	200	Hopper	200,000	50	4-5/16	62,200	Nov.	Feb. '66	Pullman-Standard
	300	Ballast	200,000	43	1	63,000	Nov.	Mar. '66	FMC Corp.
	200	Box	140,000	50	..	.....	Dec.	Oct. '66	Pullman-Standard
	200	Box	140,000	50	..	.....	Dec.	Oct. '66	Pullman-Standard
	50	Box	180,000	60	..	.....	Dec.	Aug. '66	ACF
	50	Wood Chip	140,000	..	..	.....	Dec.	Aug. '66	Greenville Steel Car
	50	Cov. Hopper	200,000	44	9	65,600	Dec.	May '66	ACF
Clinchfield	2	Box	140,000	60	9	89,850	Mar.	Sept.	Greenville Steel Car
	40	Cov. Hopper	200,000	41	1	59,500	June	Sept.	Pullman-Standard
Consolidation Coal	126	Gondola	200,000	49	..	59,300	June	Nov.-Dec.	Greenville Steel Car
	202	Gondola	200,000	49	..	59,300	Nov.	May, June, July '66	Greenville Steel Car
Delaware & Hudson	200	Box	150,000	50	6	68,400	Sept.	Mar. '66	Pullman-Standard
	1	Cov. Hopper	140,000	29	6	.....	Oct.	June, '66	GATC
	4	Bulkhead Flat	180,000	58	6	78,600	Jan.	July	Thrall Car
	6	Bulkhead Flat	180,000	58	6	78,600	Dec.	July, '66	Thrall Car
	125	Hopper	200,000	30	9-1/8	52,500	Dec.	Mar. '66	Bethlehem Steel
	25	Refrig.	139,000	50	1	79,000	Apr.	July	North American
Denver & Rio Grande Western	1	Box	175,000	60	8	87,700	Aug.	Jan. '66	ACF
	2	Box	167,000	60	8	95,390	July	Jan. '66	ACF
	8	Box	123,000	60	8	96,650	July	Jan. '66	ACF
	1	Box	169,000	60	8	94,128	Aug.	Feb. '66	ACF
	10	Box	105,000	86	6	115,000	Oct.	Apr. '66	Thrall Car
	2	Box	171,000	60	8	92,000	Nov.	July, '66	Pullman-Standard
	6	Box	108,000	86	6	111,500	Sept.	Sept. '66	Pullman-Standard
	200	Box	150,000	50	6	68,000	Dec.	Oct. '66	ACF
	7	Bulkhead Flat	200,000	48	6	109,600	Oct.	Jan. '66	General Steel Ind.
	200	Hopper	154,000	39	10	55,800	Aug.	Jan. '66	Bethlehem Steel
	200	Hopper	154,000	39	10	55,800	Dec.	May '66	Bethlehem Steel
Detroit, Toledo & Ironton	115	Box	180,000	60	10-5/8	79,000	Aug.	Jan.-Feb. '66	Greenville Steel Car
	147	Box	100,000	86	6	110,000	Oct.	July '66	Pullman-Standard
	100	Cov. Hopper	200,000	29	11	59,000	Mar.	July	Pullman-Standard
E. I. DuPont de Nemours & Co	120	Cov. Hopper	200,000	58	4	56,400	Mar.	Dec.	Magor Car
Elgin, Joliet & Eastern	16	Cov. Hopper	200,000	54	6-9/16	64,500	Nov.	Apr. '66	Pullman-Standard
Erie-Lackawanna	100	Box	140,000	86	6	116,000	Jan.	June-July	Greenville Steel Car
	3	Box	200,000	60	10-1/2	85,000	Mar.	Aug.	Pullman-Standard
	97	Box	140,000	60	8-1/2	76,000	Mar.	Aug.-Sept.	ACF
	11	Box	140,000	86	6	115,000	Feb.	Jan. '66	Thrall Car
	49	Box	200,000	60	8-1/2	85,000	Nov.	Apr. '66	Greenville Steel Car
	111	Box	140,000	60	8-1/2	76,000	Nov.	May '66	Greenville Steel Car
	143	Box	140,000	86	6	116,000	Nov.	June-July '66	Greenville Steel Car
	30	Ins. Box	140,000	50	1	77,200	Mar.	Nov.	GATC
	50	Ins. Box	140,000	50	1	82,300	Mar.	Dec.	GATC
	100	Gondola	140,000	65	6	67,400	Mar.	July-Aug.	Greenville Steel Car
	100	Gondola	200,000	52	6	82,900	Mar.	Sept.	Greenville Steel Car
	100	Gondola	140,000	52	6	60,500	Mar.	Oct.	Greenville Steel Car
	25	Gondola	140,000	52	6-1/2	71,600	Mar.	Oct. '66	Greenville Steel Car
	25	Cov. Hopper	200,000	..	..	67,600	Mar.	July	Bethlehem Steel
Fruit Growers Express	560	RB-RBL	140,000	50	..	.....	July	4th Quart. '65 1st Quart. '66	Company Shops
	345	RBL	140,000	50	..	.....	Dec.	2nd Quart. '66	Company Shops
Genesee & Wyoming	1	Hopper	200,000	42	1	69,000	Jan.	.....	Greenville Steel Car
	50	Cov. Hopper	200,000	41	3	60,000	Oct.	Feb. '66	ACF
Georgia	50	Bulkhead Flat	140,000	45	6	56,000	Aug.	Jan. '66	Magor Car
Grand Trunk Western	35	Box	140,000	86	6	.....	Apr.	Nov.	Thrall Car
	69	Box	200,000	60	10-5/8	71,700	May	Dec.	ACF
	71	Box	200,000	60	9	71,700	May	Dec.	ACF
	11	Box	140,000	60	9	75,100	May	Dec.	ACF
	249	Box	140,000	60	9	75,100	May	Dec.	ACF
	35	Box	200,000	60	9	.....	Sept.	Feb. '66	Greenville Steel Car
	50	Cov. Flat	193,000	53	6	68,000	Apr.	Nov.	Evans Products
	50	Flat	140,000	60	..	.....	May	Dec.	Evans Products
	25	Cov. Hopper	190,000	..	..	69,500	May	Sept.	ACF
	50	Cov. Hopper	205,000	..	..	56,500	May	Oct.	Pullman-Standard
Great Northern	300	Box	154,000	50	8	63,800	Dec. '64	Apr.	Pacific Car & Foundry
	100	Box	154,000	50	8	64,000	Dec.	June	Pacific Car & Foundry
	75	Ins. Box	140,000	50	2	77,600	July	Nov.	Pacific Car & Foundry
	5	Ins. Box	140,000	50	1	76,500	Aug.	Nov.	Fruit Growers Ex.
	50	Wood Chip	196,000	61	4	66,400	Feb.	July	Gunderson Bros.
	10	Bulkhead Flat	180,000	61	..	83,200	Dec. '64	May	Thrall Car
	10	Bulkhead Flat	180,000	53	6	70,500	Feb.	Sept.	General Steel Ind.
	300	Flat	154,000	61	6	61,400	Jan.	Dec.	Thrall Car

1965 FREIGHT-TRAIN CAR ORDERS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Great Northern (Continued)	100	Gondola	154,000	52	6	58,000	Jan.	Oct.	Thrall Car
	100	Cov. Hopper	196,000	49	9	66,900	Dec. '64	Aug.	ACF
	200	Hopper	193,000	53	3	69,500	Feb.	Aug.	ACF
Green Bay & Western	20	Box	140,000	50	6	.....	May	Feb. '66	Pullman-Standard
	8	Box	140,000	86	6	.....	Oct.	July '66	Thrall Car
	10	Gondola	140,000	52	6	.....	Aug.	June '66	Thrall Car
Gulf, Mobile & Ohio	300	Box	140,000	50	6	61,600	July	Feb. '66	Pullman-Standard
	200	Box	140,000	50	6	61,600	Nov.	Nov. '66	Pullman-Standard
	3	Insulated Box	140,000	50	..	79,300	Sept.	Oct.	North American
	2	Caboose	.....	..	..	.....	Aug.	Jan. '66	International Car
	2	Auto Racks	.....	89	..	.....	Feb.	July-Aug.	Whitehead & Kales
	10	Auto Racks	.....	89	..	.....	Sept.	Dec.	Whitehead & Kales
	3	Auto Racks	.....	89	..	.....	Sept.	Feb. '66	Whitehead & Kales
	1	Auto Rack	.....	89	..	.....	Nov.	Early '66	Whitehead & Kales
	1	Auto Rack	.....	89	..	.....	Dec.	Early '66	Whitehead & Kales
	50	Cov. Hopper	200,000	44	9	65,600	Dec.	May '66	ACF
Illinois Central	107	Box	140,000	60	9	88,500	Aug. '64	May-June	Thrall Car
	43	Box	200,000	60	9	120,400	Aug. '64	May-June	Thrall Car
	22	Box	200,000	60	..	87,500	Mar.	Aug.	Company Shops
	300	Box	140,000	50	6	66,500	June	Nov.-Dec.	Company Shops
	300	Box	140,000	50	6	66,500	Oct.	Jan. Feb. '66	Company Shops
	100	Box	140,000	50	6	66,000	Dec.	Feb.-Mar. '66	Company Shops
	100	Box	140,000	50	6	72,000	Dec.	Feb.-Mar '66	Company Shops
	64	Box	140,000	60	..	87,500	Nov.	Mar.-Apr. '66	Company Shops
	36	Box	200,000	60	..	87,500	Nov.	Mar.-Apr. '66	Company Shops
	100	Flat	140,000	60	..	65,000	Sept. '64	Oct.	Company Shops
	9	Flexi-Van Flat	.....	87	3	58,900	July	Sept.	Greenville Steel Car
	1,400	Hopper	140,000	40	8	53,700	Sept.-Dec.'64	Jan.-Sept.	Company Shops
Illinois Terminal	10	RBL	140,000	50	1	82,500	July	Dec.	GATC
	20	Flat	140,000	53	6	61,500	July	Jan. '66	General Steel Ind.
	100	Gondola	140,000	52	6	63,000	July	Jan.-Feb. '66	Ortner
	100	Gondola	200,000	52	6	63,000	July	Nov. '65-Jan. '66	Magor Car
	130	Box	140,000	50	6	56,000	July	Mar. '66	Pullman-Standard
Kansas City Southern	2	Airslide Cov Hopper	200,000	48	11	71,500	Mar.	July	GATC
	2	Airslide Cov. Hopper	140,000	29	6	56,900	Mar.	May	GATC
	100	Cov. Hopper	200,000	46	..	67,500	Jan.	June	Pullman-Standard
Kansas, Oklahoma & Gulf	200	Bulkhead Flat	200,000	60	..	84,000	Sept.	June '66	General Steel Ind.
	500	Box	140,000	50	6	62,000	Sept.	Mar. '66	GATC
	20	Box	100,000	86	6	117,000	Oct.	Aug. '66	Pullman-Standard
	30	Box	100,000	86	6	111,500	Oct.	July '66	Thrall Car
	100	Gondola	200,000	65	6	71,300	Sept.	Jan. '66	Magor Car
Lake Superior & Ishpeming	200	Hopper	180,000	20	7-7/8	44,000	Jan.	May-June	Bethlehem Steel
Lehigh Valley	40	Ins. Box	135,000	50	2	82,400	Apr.	Dec.	Penna. RR Shops
	60	Box	135,000	50	8	83,500	Apr.	Dec.	Penna. RR Shops
Louisville & Nashville	55	Box	140,000	86	6	114,600	March	May	Greenville Steel Car
	20	Box	200,000	60	9	80,000	Nov.	May '66	Greenville Steel Car
	25	Box	140,000	86	6	114,600	Oct.	Apr. '66	Greenville Steel Car
	500	Box	140,000	50	6	60,000	Dec.	May '66	GATC
	100	Box	200,000	50	6	63,000	Dec.	Sept. '66	Pullman-Standard
	400	Box	200,000	50	6	60,000	Dec.	Oct. '66	Pullman-Standard
	25	Bulkhead Flat	200,000	70	..	79,000	Feb.	Oct.	Whitehead & Kales
	50	Gondola	200,000	52	6	87,000	June	Dec.	Ortner
	250	Gondola	140,000	52	6	59,000	Aug.	Mar. '66	Pullman-Standard
	100	Gondola	140,000	52	6	61,000	Aug.	Apr. '66	Pullman-Standard
	100	Gondola	200,000	52	6	63,000	Aug.	May '66	Pullman-Standard
	10	Hopper	200,000	48	11	72,900	Nov.	Feb. '66	GATC
	1000	Hopper	160,000	42	10	53,700	Sept.	May '66	Pullman-Standard
	100	Pulpwood	140,000	41	5	60,000	June	Dec.	ACF
Merchants Despatch Transportation	100	Tri-Level Auto Racks	124,000	89	3	54,800	March	Sept.	Pullman-Standard Whitehead & Kales
	100	Flat	140,000	87	3	58,500	June	4th Quart.	Greenville Steel Car
Missouri-Illinois	100	Box	200,000	60	8-1/2	80,000	Sept.	May, '66	Evans Products
	50	Cov. Gondola	200,000	52	6	72,000	Sept.	Mar. '66	Ortner
	50	Gondola	200,000	52	6	66,000	Sept.	Feb. '66	Ortner
	400	Cov. Hopper	200,000	54	6	64,140	Sept.	Mar. '66	Pullman-Standard
	200	Hopper	200,000	47	11	62,000	Sept.	Mar. '66	Bethlehem Steel
Missouri-Kansas-Texas	2	Box	200,000	60	..	79,700	Oct.	Feb. '66	ACF
	530	Box	140,000	50	..	64,200	Oct.	June-Aug. '66	ACF
	30	Cov. Hopper	140,000	41	3	61,900	Oct.	Dec.	ACF
	55	Cov. Hopper	200,000	49	7	.....	Sept.	Feb. '66	Pullman-Standard
	75	Cov. Hopper	200,000	29	3	.....	Sept.	Feb. '66	Pullman-Standard
Missouri Pacific	8	Flat	140,000	89	..	66,600	Nov.	Mar. '66	ACF
Monon	8	Tri-level Auto Rack	140,000	89	..	96,000	Mar.	July '65-Apr. '66	Pullman-Standard Whitehead & Kales
Monongahela Connecting	30	Gondola	180,000	36	5	77,000	Oct.	July '66	Company Shops
New York Central	155	Box	140,000	86	6	114,200	Mar.	May	Greenville Steel Car
	372	Box	140,000	60	9	90,500	Jan.	July	Company Shops
	23	Box	200,000	60	9	130,700	Mar.	Oct.	Company Shops
	101	Box	140,000	86	6	113,500	May	Aug.	Pullman-Standard
	53	Box	200,000	60	9	113,600	Mar.	Sept.	Company Shops
	48	Box	200,000	60	9	117,000	Mar.	Nov.	Company Shops
	48	Box	200,000	60	9	121,700	Aug.	Nov.	Company Shops
	4	Box	200,000	60	9	94,900	Aug.	Dec.	Company Shops
	29	Box	200,000	60	9	145,900	Aug.	Dec.	Company Shops
	81	Box	140,000	60	9	.....	Dec.	Feb. '66	Pullman-Standard
	110	Box	200,000	60	9	.....	Dec.	Feb. '66	Pullman-Standard
	50	Ins. Box	140,000	50	..	.....	Aug.	Jan. '66	Company Shops
	4	Caboose	80,000	30	..	48,800	June	Nov.	International Car
	50	Caboose	80,000	..	..	.....	Nov.	May '66	Company Shops
	100	Flat	200,000	..	..	69,100	Aug.	Nov.	Evans Porducts
	4	Flat	100,000	..	..	.....	Dec.	Jan. '66	Greenville Steel Car
	96	Flat	140,000	..	..	.....	Dec.	Apr. '66	Greenville Steel Car
Norfolk Southern	100	Cov. Hopper	200,000	41	1	59,000	July	Jan. '66	Bethlehem Steel
	100	Cov. Hopper	200,000	41	1	59,000	July	Jan. '66	Bethlehem Steel
	100	Cov. Hopper	200,000	41	1	59,000	July	Jan. '66	Pullman-Standard
Norfolk & Western	45	Box	140,000	86	6	114,800	Mar.	June-July	Greenville Steel Car
	110	Box	140,000	60	8	80,795	Mar.	Sept.	ACF
	53	Box	200,000	60	9	87,800-92,500	Mar.	Aug.	Greenville Steel Car
	3	Box	140,000	86	6	105,500	Mar.	Aug.	Pullman-Standard
	400	Box	140,000	50	6	65,500-70,000	Mar.	July-Aug.	ACF
	25	Box	200,000	60	9	85,000	Apr.	Apr.-May	Thrall Car
	170	Box	140,000	86	6	111,000	May	Oct.-Nov.	Thrall Car
	110	Box	140,000	86	6	111,000	May	May-June	Pullman-Standard
	77	Box	140,000	60	8	81,000	Oct.	Aug.-Sept. '66	ACF
	33	Box	200,000	60	8	83,500	Oct.	Aug.-Sept. '66	ACF

1965 FREIGHT-TRAIN CAR ORDERS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Norfolk & Western (Continued)	223	Box	140,000	86	6	115,000	Oct.	June-July '66	Greenville Steel Car
	150	Box	140,000	86	6	115,000	Oct.	June-July '66	Thrall Car
	39	Box	140,000	60	9	82,000	Dec.	Sept. '66	ACF
	26	Box	200,000	60	9	84,500	Dec.	Sept. '66	ACF
	42	Box	140,000	60	9	81,000	Dec.	Sept. '66	ACF
	30	Flat	200,000	47	6	70,340	Mar.	Apr.-May	Evans Products
	200	Gondola	200,000	65	..	75,000	Dec.	June-Oct. '66	Ortner
	1,000	Gondola	200,000	52	6	70,465	Feb.	June-Oct.	Company Shops
	50	Cov. Hopper	200,000	29	3	56,900	Feb.	July	Pullman-Standard
	92	Cov. Hopper	200,000	53	3	67,400	Apr.	Apr.	ACF
	50	Cov. Hopper	200,000	38	..	58,000	Oct.	Mar. '66	ACF
	275	Cov. Hopper	200,000	49	9	63,000	Oct.	May-June '66	ACF
	1,500	Hopper	190,000	45	..	59,000	June	Oct. '65-Feb. '66	Company Shops
	1,000	Hopper	190,000	45	..	59,000	June	Feb. '66	Company Shops
	1,000	Hopper	170,000	37	..	51,400	June	Feb. '66	Company Shops
	107	Box	200,000	60	..	79,700	Dec.	Sept. '66	ACF
North American Car	25	RBL	.....	60	..	.....	Jan.	Oct.	Pacific Car & Foundry
	6	Auto Rack	.....	89	..	.....	Dec. '64	Mar.-Apr.	ACF
	100	Auto Rack	.....	79	..	.....	July	Nov.	Whitehead & Kales
	5	Cov. Hopper	.....	..	..	.....	Aug.	1st Quart. '66	ACF
	5	Cov. Hopper	.....	..	..	.....	Aug.	June '66	ACF
	430	Hopper	.....	..	..	.....	Dec.	1st & 2nd Quart. '66	Hawker Siddeley, Canada
	1	Hopper	.....	..	..	.....	1965	Feb.	National Steel Car
	240	Hopper	.....	..	..	.....	June	Oct.	National Steel Car
	427	Hopper	200,000	..	..	.....	July-Nov.	Nov. '65-'66	Company Shops
	3	Tank	20,000 gal	..	..	.....	1965	Mar.	Davie Shipbuilding
	25	Tank	10,000 gal	..	..	.....	1965	July	Davie Shipbuilding
	89	Tank	20,000 to 32,800 gal	..	..	.....	1965	May-Oct.	Hawker Siddeley, Canada
	1,113	Tank	8,000 to 33,000 gal	..	..	.....	Jan.-Dec.	1965-66	Company Shops
Northern Pacific	20	Box	200,000	60	6	.....	Nov.	July '66	Transco
	300	Box	154,000	50	6	62,000	Nov.	1st Quart. '67	Company Shops
	100	End Door Box	154,000	50	6	62,300	Nov.	1st Quart. '67	Company Shops
	200	Wood Chip	188,000	59	7	74,500	Apr.	1st Quart. '66	Thrall Car
	90	Flat	154,000	53	6	61,600	Nov.	Mar. '66	General Steel Ind.
	10	Bulkhead Flat	149,000	48	6	70,500	Nov.	Mar. '66	General Steel Ind.
	8	Bulkhead Flat	154,000	48	6	109,000	Aug.	1st Quart. '66	General Steel Ind.
	20	Cov. Gondola	188,000	52	6	74,100	Feb.	Nov.	Ortner
	42	Hopper	200,000	53	4-1/4	63,000	Aug.	July '66	Ortner
	50	Cov. Hopper	199,000	49	6-5/16	63,400	Feb.	Aug.	Pullman-Standard
	2	Airslide Cov. Hopper	200,000	29	6	58,650	Mar.	June	GATC
	1	Airslide Cov. Hopper	191,000	48	11	71,600	Aug.	Sept.	GATC
	8	Airslide Cov. Hopper	154,000	29	6	57,600	Oct.	2nd Quart. '66	GATC
	150	Mech. Refrig.	134,000	50	9	86,000	Dec.	June '66	Pacific Car & Foundry
	100	RBL Refrig.	140,000	50	..	78,000	Nov.	1966	Company Shops
	100	RBL Refrig.	140,000	50	..	78,000	Nov.	1967	Company Shops
	22	Stock	120,000	85	2-3/4	99,100	Aug.	1st Quart. '66	Ortner
Pennsylvania	25	Box	140,000	86	6	109,500	Jan.	July	Pullman-Standard
	46	Box	140,000	86	6	118,700	Feb.	Aug.	Pullman-Standard
	52	Box	140,000	86	6	113,900	Feb.	Aug.	Pullman-Standard
	700	Box	140,000	60	8	87,500	Feb.	Nov.	Company Shops
	500	Box	140,000	50	6	80,000	Aug.	Jan. '66	Company Shops
	736	Box	140,000	60	8	80,000	Oct.	June '66	Company Shops
	425	Box	140,000	86	6	109,500	Oct.	June '66	Pullman-Standard
	42	Box	140,000	86	6	113,900	Oct.	July '66	Pullman-Standard
	61	Box	140,000	86	6	110,000	Nov.	Aug. '66	Thrall Car
	5	Flat	140,000	89	..	76,100	Feb.	July	Whitehead & Kales
	125	Cov. Gondola	200,000	52	6	71,200	Feb.	Dec.	Company Shops
	325	Cov. Gondola	190,000	38	6	64,500	Feb.	May '66	Company Shops
	250	Cov. Hopper	200,000	53	3	67,600	Sept.	Nov.	ACF
	50	Cov. Hopper	200,000	54	1	55,900	June	Dec.	Magor Car
	50	Cov. Hopper	140,000	29	6	57,000	Nov.	Mar. '66	GATC
	3,000	Hopper	200,000	44	11	62,700	Feb.	Nov.	Company Shops
	1,500	Hopper	200,000	44	11	62,700	Aug.	Feb. '66	Company Shops
Pennsylvania Power & Light	136	Hopper	200,000	44	11-7/8	62,000	Mar.	Aug.-Sept.	Bethlehem Steel
Pittsburgh & Lake Erie	400	Box	140,000	50	7	73,500	Mar.	Mar. '66	Company Shop
	100	Ins. Box	140,000	50	2	82,800	Apr.	Apr. '66	Company Shops
	100	Coil Steel	250,000	60	..	.....	Mar.	.....	Evans Products
	100	Cov. Gondola	200,000	52	6	78,000	Nov. '64	Jan. '66	Greenville Steel Car
	25	Cov. Gondola	200,000	52	6	85,000	Nov. '64	Jan. '66	Greenville Steel Car
Pittsburgh & Shawmut	100	Hopper	110,000	32	6	46,000	Nov.	Feb. '66	Greenville Steel Car
Reading	23	Cov. Hopper	200,000	53	3	67,800	Oct.	Dec.	ACF
	3	Cov. Hopper	200,000	49	9	66,700	Nov.	Dec.	ACF
	77	Cov. Hopper	200,000	49	9	62,000	Oct.	May '66	ACF
Republic Steel	25	Slab	200,000	39	6	70,000	June	Oct.-Nov.	Bethlehem Steel
Reserve Mining	216	Ore	190,000	89	..	.....	Jan.	June-July	ACF
	1	Caboose	80,000	30	..	42,000	Feb.	July	International Car
Richmond, Fredericksburg & Potomac	50	Wood Rack	140,000	54	9	55,100	March	Oct.	Fruit Growers Ex.
St. Louis-San Francisco	100	RBL Box	140,000	50	1	80,000	Aug.	Feb. '66	Evans Products
	200	XML Box	140,000	50	6	64,200	Aug.	Apr. '66	ACF
	6	Box	200,000	60	..	77,000	Dec.	July '66	Evans Products
	50	Bulkhead Flat	200,000	70	..	81,000	Aug.	Mar. '66	Ortner
	50	Bulkhead Flat	140,000	48	6	74,000	Aug.	Apr. '66	Company Shops
	100	Gondola	200,000	52	6	63,000	Aug.	Feb. '66	Darby
	100	Cov. Hopper	209,500	54	1-5/8	53,500	Apr.	Sept.	Magor
	150	Cov. Hopper	200,000	37	..	61,200	Aug.	Mar. '66	Pullman-Standard
	6	Airslide Cov. Hopper	140,000	29	6	56,400	Nov.	Apr. '66	GATC
St. Louis Southwestern	12	Caboose	80,000	30	..	52,200	Jan.	May	International Car
	50	Flat	140,000	89	..	66,800	Jan.	Feb.	Bethlehem Steel
Seaboard Air Line	200	Box	140,000	50	6	67,500	Mar.	Nov.	ACF
	500	Box	140,000	50	6	67,500	Dec.	Nov. '66	ACF
	300	Box	140,000	50	6	71,500	Dec.	Nov. '66	Pullman-Standard
	100	Wood Chip	140,000	..	..	67,300	Nov.	Mar.-Apr. '66	Greenville Steel Car
	150	Hopper	200,000	..	..	59,900	Mar.	Aug.	Pullman-Standard
	25	Hopper	200,000	..	..	57,700	Mar.	Dec.	B. F. Goodrich
	50	Hopper	200,000	..	..	57,300	Sept.	Apr.-May '66	GATC
	600	Hopper	200,000	..	..	62,000	Nov.	Apr.-May '66	Pullman-Standard
	200	Wood Rack	140,000	50	..	55,600	Mar.	Nov.	Magor Car
	300	Wood Rack	140,000	50	..	55,600	Nov.	Mar.-Apr. '66	Magor Car
Shippers' Car Line	1,540	Cov. Hopper	.....	..	..	.....	1965	1965-66	ACF
	1,376	Tank	.....	..	..	.....	1965	1965-66	ACF
	141	Tank	.....	..	..	.....	1965	1965-66	ACF
	19	Cov. Hopper	.....	..	..	.....	1965	1965-66	ACF
Soo Line	200	Box	140,000	50	6	62,800	Aug.	1966	Company Shops
	25	Ins. Box	140,000	52	6	81,800	Aug.	1966	Company Shops

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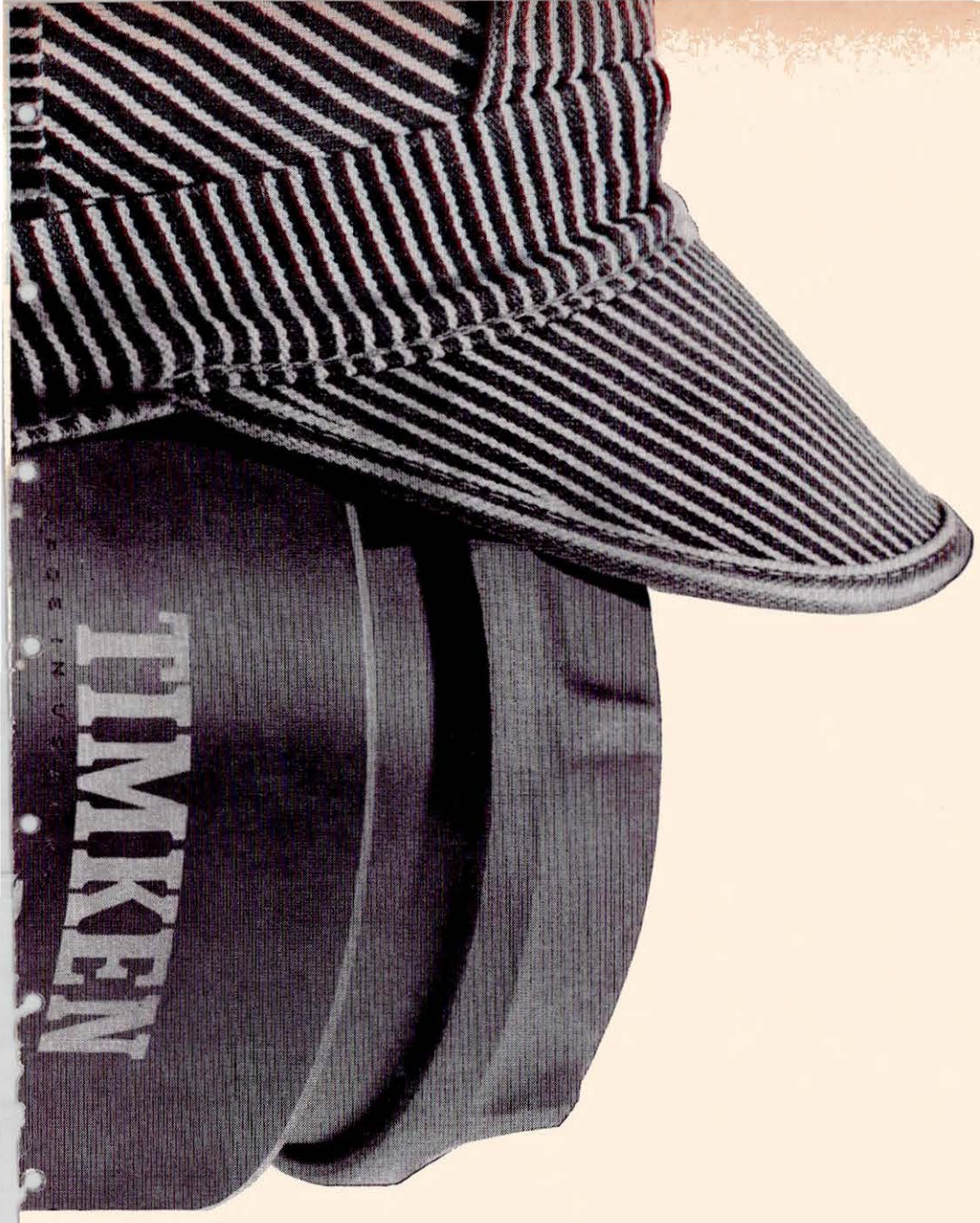

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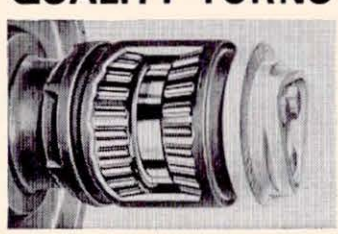

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TAPERED ROLLER
BEARINGS

Circle 42 on reader service card

1965 FREIGHT-TRAIN CAR ORDERS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Soo Line (Continued)	5	Caboose	.....	..	..	.....	Sept.	1966	International Car
	15	Flat	140,000	89	..	73,500	Oct.	Dec.	GATC
	30	Gondola	200,000	52	6	63,700	Oct.	Apr. '66	Ortner
Southern	64	Box	140,000	60	9	82,700	Jan.	Aug.	Pullman-Standard
	500	Box	140,000	50	6	69,300	Mar.	Sept.-Nov.	Pullman-Standard
	975	Box	100,000	50	6	56,800	Apr.	Nov. '65-Feb. '66	Pullman-Standard
	19	Box	140,000	60	9	77,500	June	Jan. '66	ACF
	50	Box	200,000	60	9	76,500	June	Jan. '66	ACF
	25	Box	200,000	50	6	59,200	Apr.	Feb. '66	Pullman-Standard
	64	Box	140,000	60	9	82,700	Oct.	Mar. '66	Pullman-Standard
	54	Box	140,000	86	6	111,500	Nov.	July '66	Pullman-Standard
	50	Bulkhead Flat	200,000	70	..	90,000	Mar.	4th Quart.	Thrall Car
	6	Tank	200,000	..	..	54,600	May	Nov.	Union Tank Car
Southern Pacific	25	Caboose	80,000	30	..	52,200	Jan.	Mar.-Apr.	International Car
	25	Caboose	80,000	30	..	.....	Oct.	Feb.-Mar. '66	International Car
	50	Flat	140,000	89	..	66,800	Jan.	Feb.	Bethlehem Steel
	10	Cov. Hopper	200,000	41	3	61,900	May	May	ACF
	70	Cov. Hopper	200,000	41	3	61,900	June	Sept.-Oct.	ACF
	50	Flat	140,000	89	..	67,300	July	Sept.-Oct.	ACF
	62	Flat	140,000	89	..	67,300	Oct.	Feb. '66	ACF
Spokane, Portland & Seattle	70	Wood Chip	200,000	60	..	66,600	Mar.	Aug.	Gunderson Bros.
Stanray Corp	30	Flat	140,000	89	..	65,200	Mar.	Mar.	Bethlehem Steel
Strick Trailer	9	Flat	120,000	87	3	58,900	Aug.	Sept.	Greenville Steel Car
Toledo, Peoria & Western	19	RBL	140,000	50	..	77,000	Oct.	Nov. '65 Jan. '66	North American Car
Trailer Train	2,901	Flat	140,000	89	..	73,400-74,800	Jan.-Dec.	Jan.-Jan. '66	Bethlehem Steel
	1,470	Flat	110,000-140,000	89	..	65,900-67,300	Jan.-Dec.	Jan.-Feb. '66	ACF
	2,881	Flat	140,000	89	..	60,600-75,000	Jan.-Dec.	Jan.-Nov.	Pullman-Standard
Transport Leasing	150	Cov. Hopper	200,000	49	7	62,800	Mar.	May-June	Pullman-Standard
	20	Cov. Hopper	200,000	49	7	60,200	Apr.	June	Pullman-Standard
	50	Cov. Hopper	200,000	49	7	61,800	May	June	Pullman-Standard
	100	Cov. Hopper	200,000	49	7	.....	July	Jan. '66	Pullman-Standard
	107	Cov. Hopper	200,000	49	7	.....	Oct.	Jan. '66	Pullman-Standard
Union Pacific	20	Box	140,000	60	..	75,000	Apr.	Sept.	ACF
	7	Box	140,000	60	..	75,000	June	Dec.	ACF
	6	Box	140,000	60	..	75,000	July	Jan. '66	ACF
	500	Box	140,000	50	..	64,200	Aug.	Apr.-May '66	ACF
	3	Box	140,000	60	9	85,000	June	Sept.	Greenville Steel Car
	6	Box	200,000	60	10	85,200	May	Aug.	Pullman-Standard
	11	Box	200,000	60	9	.....	July	Mar. '66	Pullman-Standard
	8	Box	140,000	86	6	.....	Oct.	July '66	Pullman-Standard
	500	Ins. Box	140,000	50	1	.....	Aug.	May-June '66	Pullman-Standard
	250	Cov. Hopper	200,000	44	9	65,600	Aug.	Jan. '66	ACF
	250	Cov. Hopper	200,000	49	7	.....	July	Jan. '66	Pullman-Standard
	500	Hopper	180,000	45	..	61,400	July	Feb.-Mar. '66	Bethlehem Steel
	50	Airslide Cov. Hopper	.....	..	..	.....	Dec.	.....	GATC
	400	Gondola	.....	..	..	.....	Dec.	.....	Gunderson Bros.
	100	Cov. Gondola	.....	..	..	.....	Dec.	.....	Gunderson Bros.
	500	Ins. Box	.....	50	..	.....	Dec.	.....	Evans Products
Various Industrial Orders	1	Box	140,000	50	..	64,200	Feb.	Feb.	ACF
	100	Box	140,000	60	10	80,400	Apr.	Oct.-Nov.	Pullman-Standard
	1	Box	140,000	50	6	.....	Dec.	Dec.	Pullman-Standard
	101	Cov. Hopper	200,000	41	1	.....	Mar.	Jan. '66	Pullman-Standard
	53	Cov. Hopper	200,000	49	7	.....	Jan.	June '66	Pullman-Standard
	91	Flat	200,000	89	1	70,000	Jan.	Sept.	Pullman-Standard
	1	Flat	695,000	..	..	.....	Dec.	June '66	Thrall Car
	2	Cov. Hopper	140,000	..	..	.....	Oct.	Feb. '66	Thrall Car
	55	Hopper	.....	..	..	62,000	Mar.	May '66	Thrall Car
	88	Hopper	.....	..	..	.....	Mar.	Apr. '66	Thrall Car
	153	Gondola	.....	..	..	60,000	Feb.	Dec. '65-Jan. '66	Thrall Car
	2	Special	140,000	..	..	.....	Nov.	May '66	Thrall Car
Western Fruit Express	200	RPL	140,000	56	..	90,000	June	3rd Quart. '66	Pacific Car & Foundry
	25	RBL	140,000	50	6	92,000	Feb.	4th Quart.	Pacific Car & Foundry
Western of Alabama	50	Bulkhead Flat	140,000	45	6	56,000	Aug.	Jan. '66	Magor Car
Western Maryland	50	Cov. Hopper	200,000	39	10	59,900	March	July	Bethlehem Steel
	30	Hopper	200,000	49	6-1/4	63,300	May	Sept.	Pullman-Standard
Western Pacific	10	Airslide Cov. Hopper	200,000	..	..	71,500	June	Nov.	GATC
Wilson Car Lines	185	Refrig. RSM	100,000	45	..	69,500	Jan.	Sept.-Oct.	Pacific Car & Foundry
	15	RPM	100,000	49	5	71,100	Jan.	Oct.	Pacific Car & Foundry

1965 FREIGHT-TRAIN CAR ORDERS—CANADA

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Algoma Central	100	Bulkhead Gondola	154,000	61	..	63,800	Jan.	Aug.-Sept.	National Steel Car
Aluminum Co. of Canada	20	Hopper	.....	30	2-3/4	38,000	July	Mar. '66	Montreal Locomotive
Canadian General Transit	286	Tank	13,500 to 33,500 gal	..	..	.....	Jan.-Nov.	Jan. '65-Mar. '66	Hawker Siddeley, Canada
Canadian National	500	Box	160,000	50	6	59,400	July	Feb. '66	National Steel Car
	300	Ins. Box	155,000	50	6	62,700	Aug.	Apr. '66	National Steel Car
	100	Wood Chip	161,000	60	3	59,600	July	Oct.	Vancouver Iron & Eng. Works
	145	Wood Chip	165,000	61	5-1/2	53,700	Feb.	Nov.	Hawker Siddeley, Canada
	2	Bulkhead Flat	140,000	51	6	57,000	Oct.	Dec.	Marine Industries
	200	Bulkhead Flat	140,000	51	6	57,000	Nov.	July '66	Marine Industries
	200	Cont. Flat	100,000	61	3	45,000	Sept.	Mar. '66	Int'l. Equipment Co.
	50	Piggyback Flat	100,000	54	4	54,300	Apr.	May	Napanee Industries
	400	Piggyback Flat	100,000	61	4	50,000	Sept.	Jan. '66	Vancouver Iron & Eng. Works
	200	Flat	140,000	54	4	49,600	Dec.	Mar. '66	Int'l. Equipment Co.
	200	Gondola	185,000	65	6-1/4	74,500	June	Nov.	National Steel Car

FREIGHT-TRAIN CAR ORDERS—CANADA (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Canadian National (Continued)	200	Gondola	185,000	65	6-1/4	74,500	July	Jan. '66	National Steel Car
	6	Cov. Hopper	200,000	50	6	60,000	May	Sept.	Marine Industries
	245	Hopper	190,000	31	9	67,500	Jan.	Dec.	National Steel Car
	50	Auto Rack	90,000	89	1	81,500	Feb.	July	National Steel Car
	150	Auto Rack	90,000	89	1	84,000	Feb.	July	National Steel Car
	100	Mech. Refrig.	145,000	50	6	75,000	Feb.	Sept.	Hawker Siddeley, Canada
Canadian Pacific	35	Box	200,000	60	9	70,000	Sept.	Mar. '66	Greenville Steel Car
	131	Box	200,000	60	8-1/2	70,000	Nov.	Sept. '66	Pullman-Standard
	100	Gondola	200,000	65	..	71,000	Mar.	Oct.-Nov. '65	National Steel Car
	202	Gondola	200,000	52	6	63,000	Nov.	June-July '66	Hawker-Siddeley, Canada
	100	Cov. Gondola	200,000	52	6	71,000	Nov.	Aug. '66	Hawker-Siddeley, Canada
	50	Coil Steel	200,000	52	6	65,000	Dec.	June '66	Int'l Equipment
	135	Flat	100,000	54	4	51,500	July-Sept.	Jan.-Feb. '66	Int'l Equipment
	100	Flat	140,000	53	6	58,500	Sept.	June-July '66	Marine Industries Ltd.
	500	Cov. Hopper	200,000	48	..	60,000	Oct.	Feb. '66	Marine Industries Ltd.
	500	Cov. Hopper	200,000	44	..	52,000	July	Jan.-May, '66	National Steel Car
	75	Auto Rack	140,000	89	1	52,000	Dec. '64 Apr. '65	June-Aug.	National Steel Car
	150	Auto Rack	140,000	89	1	52,000	Dec. '64 Apr. '65	Oct.-Nov.	National Steel Car
	75	Auto Rack	140,000	89	1	52,000	Dec. '64 Apr. '65	June-Aug.	National Steel Car
	57	Auto Rack	140,000	89	1	52,000	Dec.	Apr. '66	ACF
	150	Mech. Refrig.	140,000	50	8	80,000	Dec. '64	Oct.-Dec.	Hawker-Siddeley, Canada
	200	Bulkhead Flat	140,000	56	6	65,000	Mar.	Oct.-Nov.	Marine Industries Ltd.
Pacific Great Eastern	100	Box	140,000	50	6	60,000	Feb.	Jan.-Feb. '66	Hawker-Siddeley, Canada
Quebec Cartier	1	Mech. Refrig.	.....	50	6	.....	Feb.	Nov.	Hawker-Siddeley, Canada
Quebec, North Shore & Labrador	2	Mech. Refrig.	.....	50	6	.....	Feb.	Nov.	Hawker-Siddeley, Canada
Toronto, Hamilton & Buffalo	100	Gondola	200,000	52	6	63,000	June	Jan.-Feb. '66	National Steel Car

1965 LOCOMOTIVE ORDERS

Purchaser	No.	Wheel Arrangement	Service	Weight Lb.	Horsepower	Order Date	Delivery Date	Builder
Atchison, Topeka & Santa Fe	100	B-B	GP	264,000	2,500	Jan.	June-Nov.	EMD
	11	B-B	GP	264,000	2,500	June	Nov.	EMD
Atlantic Coast Line	13	C-C	Frt.	371,284	2,500	Jan.	Nov.	EMD
	1	C-C	Pass.-Frt.	371,400	2,500	Jan.	Nov.	EMD
	7	C-C	Frt.	370,340	2,500	Jan.	Sept.	General Electric
	3	C-C	Frt.	370,340	2,800	Jan.	Oct.	General Electric
	1	C-C	Frt.	368,900	3,000	Jan.	Aug.	Alco
	2	C-C	Frt.	350,000	3,000	Jan.	Dec.	Alco
Baltimore & Ohio	4	C-C	GP	390,000	2,500	Apr.	Sept.	EMD
	1	B-B	GP	260,000	2,500	Sept.	Dec.	EMD
Bangor & Aroostook	2	B-B	GP	244,800	2,000	Oct.	Mar. '66	EMD
Belt Railway of Chicago	3	B-B	GP	.....	2,400	Jan.	Apr.	Alco
Chesapeake & Ohio	2	C-C	GP	385,569	2,500	Apr.	Aug.	EMD
	2	B-B	GP	262,280	2,500	July	Sept.	EMD
	3	B-B	GP	261,300	2,500	July	Oct.	EMD
	1	B-B	GP	262,290	2,500	Oct.	Dec.	EMD
Chicago & Eastern Illinois	8	B-B	GP	244,800	2,500	March	June	EMD
Chicago, Burlington & Quincy	12	B-B	Sw.	248,346	1,200	Jan.	June-Aug.	EMD
	12	C-C	Frt.	395,286	2,500	Jan.	Aug.-Oct.	General Electric
	16	C-C	Frt.	.....	2,800	Oct.	Mar.-Apr. '66	General Electric
	12	B-B	Sw.	.....	1,000	Oct.	Apr.-June '66	EMD
Chicago, Rock Island & Pacific	20	B-B	GP	260,000	2,500	Jan.	2nd Quart.	EMD
	14	B-B	GP	260,000	2,500	June	July-Aug.	EMD
	17	B-B	Sw.	.....	1,200	June	Sept.-Oct.	EMD
	14	B-B	Frt.	252,000	2,500	June	Sept.-Oct.	General Electric
	10	B-B	GP	.....	2,800	Dec.	Aug. '66	General Electric
	5	B-B	GP	.....	1,500	Dec.	June '66	Alco
	10	B-B	Sw.	.....	1,500	Dec.	May '66	EMD
Chicago & North Western	26	C-C	Road Sw.	390,000	3,000	Dec.	Apr. '66	EMD
Columbus & Greenville	2	C-C	Road Sw.	356,000	1,800	.....	Sept.	EMD
Cuyahoga Valley	1	B-B	Sw.	.....	1,200	Jan.	May	EMD
Denver & Rio Grande Western	13	B-B	GP	278,000	3,000	Sept.	Jan.-Feb. '66	EMD
Detroit, Toledo & Ironton	5	B-B	GP	260,000	2,000	July	Feb. '66	EMD
Erie-Lackawanna	15	B-B	Frt.	264,000	2,500	Feb.	3rd Quart.	General Electric
	24	B-B	Frt.	261,000	2,500	Feb.	Aug.-Sept.	EMD
Erie Mining	3	B-B	GP	.....	2,000	Sept.	Dec.	Alco
Great Northern	15	B-B	GP	261,600	2,500	Jan.	Apr.	EMD
	15	B-B	GP	267,700	2,500	Jan.	June	General Electric
Green Bay & Western	1	B-B	Frt.	258,800	2,400	March	Oct.	Alco
Gulf, Mobile & Ohio	12	....	GP	390,000	3,000	Aug.	Feb.-Mar. '66	EMD
Houston Belt & Terminal	5	B-B	Sw.	260,000	1,200	Nov.	Apr. '66	EMD
Illinois Central	40	....	GP	260,000	3,000	Nov.	Jan.-Feb. '66	EMD
Kentucky & Indiana Terminal	2	B-B	Sw.	248,000	1,500	Nov.	May, '66	EMD
Lancaster & Chester	2	B-B	Sw.	230,000	900	.....	Oct.	EMD
Lehigh & Hudson River	2	B-B	GP	.....	2,000	Aug.	Dec.	Alco
	2	B-B	GP	.....	2,000	Dec.	Jan. '66	Alco
Lehigh Valley	7	C-C	Frt.	388,220	2,750	Aug.	Nov.	Alco
Louisville & Nashville	8	C-C	Frt.	396,000	3,000	Dec.	May '66	Alco
	8	C-C	Frt.	396,000	2,800	Dec.	May '66	General Electric
Mississippi Export	1	B-B	GP	.....	2,000	May	Sept.	Alco
Missouri Pacific	30	B-B	Sw.	247,580	1,200	Sept.	Feb.-Apr. '66	EMD

1965 LOCOMOTIVE ORDERS (Continued)

Purchaser	No.	Wheel Arrangement	Service	Weight Lb.	Horsepower	Order Date	Delivery Date	Builder
New York Central	14	B-B	Road Sw.	268,300	2,500	Nov. '64	Jan.	General Electric
	3	B-B	Road Sw.	268,300	2,750	Nov. '64	Feb.	General Electric
	4	B-B	Road Sw.	260,100	2,500	Nov. '64	Jan.	EMD
	5	B-B	Road Sw.	258,740	2,500	.....	Sept.	EMD
	10	B-B	Road Sw.	268,300	2,500	.....	Sept.	General Electric
	50	B-B	Road Sw.	278,300	3,000	.....	Dec.	EMD
New York, New Haven & Hartford	8	B-B	Frt.	265,880	2,500	June	Oct.	General Electric
	8	B-B	Frt.	264,200	2,500	June	Nov.	General Electric
Norfolk & Western	1	B-B	GP	260,540	2,500	Jan.	Feb.	General Electric
	30	B-B	GP	393,000	2,500	Apr.	June-Sept.	EMD
	10	C-C	GP	404,000	2,750	July	Oct.-Nov.	Alco
	50	C-C	GP	393,000	2,500	July	4th Quart.	EMD
Pennsylvania	10	B-B	Frt.	270,090	2,500	Aug.	Dec.	General Electric
	10	C-C	Frt.	385,500	2,500	Aug.	Dec.	General Electric
	5	C-C	Frt.	389,200	2,750	Aug.	Dec.	Alco
	10	B-B	Frt.	268,850	2,500	Aug.	Dec.	Alco
	65	C-C	Frt.	386,000	3,000	Aug.	Feb.-Mar. '66	EMD
Piedmont & Northern	2	B-B	GP	250,000	2,000	Feb.	Dec.	Alco
Pittsburgh & Lake Erie	22	B-B	GP	268,000	2,800	Nov.	Mar. '66	General Electric
Reading	7	C-C	GP	.....	3,000	Dec.	Mar. '66	Alco
	2	B-B	GP	.....	3,000	Dec.	Apr. '66	Alco
	1	B-B	GP	261,357	2,500	Jan.	May	EMD
	11	B-B	GP	.....	1,500	Dec.	May-June '66	EMD
Reserve Mining	4	C-C	Road Sw.	360,000	1,800	.....	May	EMD
Richmond, Fredericksburg & Potomac	8	B-B	Frt.	267,033	2,500	Feb.	Aug.-Sept.	EMD
	5	B-B	Sw.	257,099	1,200	Feb.	July-Sept.	EMD
St. Louis-San Francisco	8	B-B	GP	244,800	2,500	Aug.	Jan. '66	EMD
	8	B-B	GP	252,000	2,500	Aug.	Jan.-Feb. '66	General Electric
St. Louis Southwestern	2	B-B	Sw.	248,000	1,200	.....	Jan.	EMD
	10	B-B	Road Sw.	248,000	2,500	.....	Feb.	EMD
Seaboard Air Line	26	B-B	GP	249,500	2,000	Mar.	June-Sept.	Alco
	9	B-B	GP	258,000	2,500	Mar.	June	EMD
	30	B-B	GP	262,000	3,000	Dec.	2nd-3rd Quart. '66	EMD
Southern	100	C-C	Road	360,000	2,500	May	Sept. '65-Jan. '66	EMD
Southern Pacific	22	B-B	Sw.	248,000	1,200	.....	Jan.	EMD
	55	B-B	Road Sw.	248,000	2,500	.....	Apr. '65	EMD
Spokane, Portland & Seattle	8	B-B	Frt.	270,000	2,500	Apr.	Aug.	Alco
Texas & Pacific	20	B-B	Sw.	247,580	1,200	Sept.	Mar. '66	EMD
Texas Mexican	1	B-B	Road Sw.	244,800	1,800	.....	Oct.	EMD
Toledo, Peoria & Western	3	B-B	GP	250,000	2,500	June	Nov.	EMD
Union Pacific	5	C-C	GP	.....	3,000	Oct.	Apr. '66	Alco
	15	D-D	Road Sw.	488,000	5,000	.....	Apr.	EMD
	10	C-C	Road Sw.	360,000	2,500	.....	Aug. '65	EMD
Virginia & Carolina Chemical	1	B-B	Sw.	230,000	900	.....	Oct.	EMD
Youngstown Sheet & Tube	3	B-B	Sw.	230,000	900	.....	Oct.	EMD

1965 LOCOMOTIVE ORDERS—EXPORT

American Metal, North Rhodesia	4	B-B	Haulage (El)	16,000	34	Aug.	May '66	General Electric
Andes Copper Mining Co., Chile	3	C-C	GP	196,000	1,310	Apr.	Sept.	GM Overseas
Anglo-American Colleries, South Africa	2	B-B	GP	111,000	800	Mar.	Aug.	GM Overseas
Babcock & Wilcox, Spain	5	B-B	GP	141,000	1,050	June	Dec.	General Electric
Brazil, CSN	2	B-B	GP	230,000	1,050	Mar.	Mar. '66	General Electric
Bolivia	1	B-B	Haulage (El)	8,000	40	May	Nov.	General Electric
Cerro de Pasco, Peru	2	C-C	GP	196,000	1,310	Feb.	May	GM Overseas
	1	B-B	GP	111,000	800	Feb.	July	GM Overseas
	3	C-C	GP	196,000	1,310	Nov.	Apr. '66	GM Overseas
	1	B-B	GP	111,000	800	Nov.	Apr. '66	GM Overseas
Ceylon Government Railway	2	A-1-A	GP	160,000	1,310	Oct.	Apr. '66	GM Overseas
Chihuahua al Pacifico, Mexico	10	B-B	Pass.-Frt.	245,000	1,800	Jan.	Feb.	GM Overseas
Comilog	1	C-C	GP	212,000	1,420	Feb.	July	General Electric
Costa Rica	4	B-B	GP	112,000	700	June	Mar. '66	General Electric
Chile Iron Mines Co	1	C-C	GP	196,000	1,310	Feb.	Aug.	GM Overseas
Dalmine, Italy	1	B-B	Sw.	70,000	235	July	Feb. '66	General Electric
Ferrocarriles Nacionales de Mexico	15	B-B	GP	.....	2,400	July	Oct.-Nov.	Alco
	25	B-B	GP	244,000	2,500	Sept.	Oct.	GM Overseas
Hamersley, Australia	3	Co-Co	GP	.....	2,750	Feb.	June	Alco
Hellenic State Railways, Greece	7	Co-Co	GP	.....	2,000	Nov.	Mar. '66	Alco
Hoogovens, Holland	5	B-B	Sw.	180,000	564	May	May '66	General Electric
	1	B-B	Sw.	180,000	564	May	May '66	General Electric
International Rwy. Central America	16	B-B	GP	111,000	800	July	Nov.-Dec.	GM Overseas
Iraq	5	Co-Co	Pass.-Frt.	.....	2,000	Feb.	Oct.	Alco
Israel State Railway	2	B-B	GP	160,000	1,310	Jan.	May	GM Overseas
Italsider, Italy	2	B-B	Sw.	130,000	520	July	Oct.	General Electric
	2	B-B	Sw.	130,000	520	Sept.	Nov.	General Electric
Kaiser Aluminum Co., Jamaica	1	C-C	GP	356,000	2,000	Nov.	May '66	GM Overseas
Mexico	1	B-B	Sw.	70,000	235	May	June	General Electric
	3	B-B	Sw.	220,000	670	June	Jan. '66	General Electric
	1	B-B	Sw.	160,000	520	Jan.	Feb.	General Electric
Mozambique	16	C-C	GP	212,000	2,150	Sept.	Apr. '66	General Electric
National Iron Ore Co., Liberia	1	C-C	GP	196,000	1,310	Dec.	June '66	GM Overseas
New Zealand Government Rwys.	8	A-1-A	GP	160,000	1,310	Mar.	Nov.-Dec.	GMD Ltd.
	12	A-1-A	GP	160,000	1,310	July	Jan.-Apr. '66	GMD Ltd.
Pakistan Eastern Railway	18	Co-Co	GP	.....	2,000	July	Sept.-Oct.	Alco
Papeles y Cartones, Chile	2	B-B	Sw.	50,000	143	Aug.	Nov.	General Electric
Peru	3	Co-Co	GP	.....	2,400	Nov.	Feb. '66	Alco
R. E. N. F. E., Spain	10	Co-Co	GP	.....	1,200	Feb.	June	Alco
	10	C-C	GP	214,000	1,800	Feb.	June-July	GM Overseas
Rhokana Corp., Zambia	2	B-B	GP	111,000	800	Nov.	Apr. '66	GM Overseas
SC&T (Yucatan) Mexico	2	B-B	GP	.....	2,000	Dec.	Feb. '66	Alco
Sonora-Baja California Rwy., Mexico	2	B-B	GP	244,000	2,500	Dec. '64	Mar.	GM Overseas
South Africa	1	B-B	Sw.	44,000	143	Mar.	Aug.	General Electric
South African Railways	10	C-C	GP	204,000	2,150	Sept.	June '66	General Electric
	20	C-C	GP	214,000	1,800	Dec.	May-June '66	GM Overseas
Southern Peru Copper Co	5	C-C	GP	244,000	1,800	Jan.	Sept.	GM Overseas
Taiwan Power	1	B-B	GP	90,000	286	Feb.	June	General Electric
Tunisia	4	B-B	GP	107,000	700	Apr.	July	General Electric
U.S. Army Mobility Equipment Center	10	C-C	GP	164,000	1,320	Aug.	Sept. '66	General Electric

1965 LOCOMOTIVE ORDERS—CANADIAN DOMESTIC

Purchaser	No.	Wheel Arrangement	Service	Weight Lb.	Horsepower	Order Date	Delivery Date	Builder
Canadian National	10	B-B	Road Sw.	244,100	3,000	Oct.	Apr. '66	GMD Ltd.
	20	B-B	Road Sw.	236,100	2,400	Oct.	Apr. '66	Montreal Locomotive
Canadian Pacific	2	B-B	Pass.-Frt.	260,000	2,400	June	Jan. '65	Montreal Locomotive
	16	B-B	Pass.-Frt.	260,000	2,400	April	Feb. '66	Montreal Locomotive
	2	B-B	Pass.-Frt.	260,000	2,500	July	Jan. '66	GMD Ltd.
	32	B-B	Pass.-Frt.	390,000	3,000	Sept.	Jan.-Dec. '66	GMD Ltd.
Falconbridge Nickel Mine, Ltd.	2	B-B	Haulage (El)	40,000	180	Oct.	Sept. '66	General Electric
Marathon Corp. of Canada	1	B-B	Sw.	240,000	1,000	Aug.	Jan. '66	Montreal Locomotive
McKinnon Industries	1	B-B	Sw.	230,000	900	Nov.	July '66	GMD Ltd.
Ontario Government	8	B-B	GP	261,000	3,000	Aug.	Oct.-Dec. '66	GMD Ltd.
Pacific Great Eastern	8	B-B	Road Sw.	240,000	1,800	Dec. '64	May-June	Montreal Locomotive
Steel Co. of Canada	1	B-B	Sw.	274,000	900	July	Jan. '66	GMD Ltd.

OTHER LOCOMOTIVE ORDERS

Bethlehem Mines Corp	2	B-B	Haulage (El)	54,000	420	Oct.	July '66	General Electric
Carolina Power & Light	1	B-B	Sw.	100,000	286	Mar.	Oct.	General Electric
Central Electric Power	1	B-B	Sw.	80,000	310	Aug.	Dec.	General Electric
Christopher Coal	4	B-B	Haulage (El)	100,000	640	Oct.	June '66	General Electric
	4	B-B	Haulage (El)	68,000	420	Oct.	July '66	General Electric
Duke Power	1	B-B	Sw.	160,000	520	Aug.	Apr. '66	General Electric
Eastern Gas & Fuel	1	B-B	Haulage (El)	54,000	420	Mar.	Sept.	General Electric
	2	B-B	Haulage (El)	54,000	420	July	Apr. '66	General Electric
	4	B-B	Haulage (El)	30,000	190	July	Apr. '66	General Electric
Evans Products Co	1	B-B	Sw.	50,000	143	Nov.	Feb. '66	General Electric
General Motors, Chevrolet Div	1	B-B	Sw.	100,000	286	July	July	General Electric
Granite City Steel	2	B-B	Sw.	160,000	520	Mar.	June '66	General Electric
International Minerals	2	B-B	Sw.	200,000	564	June	Feb. '66	General Electric
Jones & Laughlin	1	B-B	Sw.	220,000	564	Oct.	June '66	General Electric
Mountaineer Coal	1	B-B	Haulage (El)	100,000	640	Jan.	June	General Electric
New York City Transit Authority	4	B-B	Sw.	90,000	286	May	Dec.	General Electric
Oro Dam Constructors	3	C-C	Frt.	390,000	2,500	Nov.	Dec.	General Electric
W. T. Smith Lumber Co	1	B-B	Sw.	50,000	143	Mar.	May	General Electric
U. S. Steel	1	B-B	Haulage (El)	108,000	640	June	Sept.	General Electric
Youngstown Sheet & Tube	2	B-B	Sw.	70,000	235	Sept.	June '66	General Electric

1965 PASSENGER-TRAIN CAR ORDERS

Purchaser	No.	Type	Length Ft.	Length In.	Construction	Seating Capacity	Weight	Order Date	Delivery Date	Builder
City of Philadelphia	20	Coach (MU)	82	4	Stainless Steel	100-122	.....	July	.....	St. Louis Car
Chicago & North Western	8	Gallery Double Deck	85	..	Steel	161	126,000	Dec.	July-Aug. '66	Pullman-Standard
	2	Gallery Double Deck Cab Control	85	..	Steel	155	129,000	Dec.	July-Aug. '66	Pullman-Standard
Dept. of Commerce	4	Ccach (MU)	85	..	Stainless Steel	Non-Revenue Test	101,500	Dec.	July '66	Budd Co.
New York City Transit Authority	200	Rapid Transit	60	2-1/2	Stainless Steel	50	.....	Mar.	.....	St. Louis Car
Northern Pacific	10	Baggage	81	2	Alloy Steel	....	105,000	Jan.	Dec.	St. Louis

Fixed-property improvements—1966

From reports submitted to Railway Age by Class I roads in Canada and the United States, it is estimated that capital expenditures in 1965 for large projects involving construction and improvement to fixed property were more than triple those of the year before. Also, the reports indicate that expenditures in 1966 for such projects will be two and a half times more than in 1965.

The largest proportion of the capital expenditures made by Class I roads in 1965 went for construction of new tracks. This category represented 45.9% of the total for projects costing $1 million or more. The second largest category, in terms of cost, was for yard construction and improvements, representing 31.7%. A weak third was the bridges and coal-pier category, with 6.1% of the total reported.

Some roads reported their plans for 1966 were not definite. Of those roads that do have their plans set for this year, capital expenditures for new track construction, amounting to 45.9% of the total, leads all categories. The category of bridge replacements was in second place with 17.4%, followed by yard improvements with 14.1%.

Below are brief descriptions of the construction projects planned for 1966 which are estimated to cost $500,000 or more. These are followed by a list of projects that cost $1 million or more which were either completed or under way in 1965.

Authorized for 1966

Baltimore & Ohio: Multiple-track enclosed spot car-repair facilities at Cumberland, Md., $1,550,000; rebuild and strengthen 26 bridges, $1,041,000; install 20 hotbox detectors, $710,000; equip selected yards, engines and cabooses for end-to-end radio operation, $1,437,000; new connecting track at Cottage Grove, Ind., to provide coordination of traffic, $600,000; and a spur track to serve General Motors Corp. at Vandalia, Ohio, $850,000.

Central RR of New Jersey: Elimin-

ate grade crossing at First Avenue in Raritan, N.J., $1,000,000.

Chesapeake & Ohio: Locomotive servicing facilities at Russell, Ky., $600,000.

Chicago & Eastern Illinois: New bridge across Wabash River on offset alignment, $3,500,000; and replace superstructure and modify present substructure of bridge No. 2468 near Decker, Ind., $950,000.

Great Northern: Line change near Summit, Mont., to reduce curvature, $1,229,500; substructure for two new bridges and purchase right of way for line change between Halford and Gold Bar, Wash., $805,000; install centralized traffic control between Columbia River and Ephrata, Wash., and rearrange trackage, $581,200; and taconite storage and loading facilities at Allouez, Wis., $6,208,000.

Gulf, Mobile & Ohio: Traffic control signaling between Pontiac, Ill., and Normal, and release approximately 24 miles of second main line, $550,000.

Illinois Central: Daylight three tunnels for increased clearances in Kentucky, $815,000; and construct a lead track to serve the International Paper Co. at Redwood, Miss., $3,300,000.

Lehigh Valley: Remote-control centralized traffic control between Wilkes-Barre, Pa., and Tunkhannock and remove one main track, $500,000.

Louisville & Nashville: Expand the diesel shop and install car-repair facilites at Corbin, Ky., $892,000; and retire and lengthen passing tracks and rearrange signals to improve passenger and fast-freight train performance on the MNO&P division, $867,596.

New York Central: Two-way 25-watt radio sets in 360 additional locomotives and in 355 pool caboose cars, $920,000; and a new double-track bridge over the Rouge River at Dearborn, Mich., in connection with a flood-control project, $1,750,000.

Northern Pacific: A new hump-retarder yard at Missoula, Mont., including weigh-in-motion scale and one-spot car-repair facilities, $1,500,000; centralized traffic control between Paradise, Mont., and Sand Point, Ida., $1,100,000; centralized traffic control between Tacoma, Wash., and Vancouver, $1,000,000; and microwave between St. Paul, Minn., and Fargo, N.D., $650,000.

Pennsylvania: Replace undergrade bridge No. 1.56 with welded spans near Jersey City, N.J., $550,000; renew signal cable between Newark, N.J., and Trenton, $876,800; rebuild undergrade bridges No. 2.41, 2.52, 2.65 and 3.26 near Philadelphia, Pa., $1,359,815; additional tracks in "Ford" yard at Metuchen, N.J., $618,100; increase the capacity of North yard at York, Pa., $626,500; modernize the coal-dumping facility at South Amboy, N.J., $1,600,000; install retarders and modernize Edge Moor yard at Wilmington, Del., $3,038,400; repair bridges No. 1.89, 3.14 and 2.97 near Baltimore, Md., $627,500; five new yard tracks at Shiremanstown, Pa., $684,600; new enginehouse and car shop at Pavonia, N.J., $1,026,500; repair undergrade bridges No. 3.46, 3.10 and 3.26 near Philadelphia, $576,700; track facilities to handle 100-car unit train loads of coal at Carrolltown, Pa., $600,000; approximately six miles of siding, install scales and remote-controlled switches to permit weighing cars in motion at Denholm, Pa., $900,000; strengthen roof supports and fireproof enginehouse at Conway, Pa., $525,000; a modern one-spot facility to speed servicing and repair of locomotives and enlarge material-handling facilities at Conway, $807,000; and a new yard to serve Armco Steel Co., at Middletown, Ohio, $962,440.

Southern: Centralized traffic control at various points, $4,993,592; tracks and facilities to serve industries at various points, $4,319,935; and other additional tracks, $2,831,682.

Completed or under way

(Figures in parentheses indicate percentage of completion on Jan. 1, 1966)

Baltimore & Ohio: A 13.9-mile extension to serve two tipples of Consolidated Coal Co., at Lafferty, Ohio, $1,600,000 (40); and a new coal-handling facility at Curtis Bay, Baltimore, Md., for handling ships from 10,000 tons to 70,000 tons, $7,500,000 (15).

Bessemer & Lake Erie: Additional coal-handling facilities at Conneaut, Ohio, $1,000,000 (10).

Canadian National: New access lines to new yard at Toronto, Ont., $42,000,000 (99); new hump yard at Toronto, $32,900,000; new merchandise terminal at Toronto, $5,400,000 (3); maintenance garage at Toronto, $1,990,000 (20); new industrial spur and support yard for Ford Motor Co., at Talbotville, $2,195,000 (12); new yard and facilities at Saskatoon, Sask., $4,363,000 (95); new terminal project at Vancouver, B.C., $27,000,000 (1); install two large-capacity boilers to replace three smaller boilers at Montreal, Que., $1,055,000 (40); a new 60-mile line from Kiask Falls subdivision to Mattagami Mines, $9,660,000 (98); a 438-mile line from near Grimshaw, Alta., to Pine Point, N.W.T., $86,250,000 (90); and a 15-mile line from Nepisiquit Jct., N.B., to a point near the middle of Bathhurst Parish, N.B., $1,450,000 (97).

Canadian Pacific: Centralized traffic control for the first of a four-year program on the Schreiber division, $1,040,000 (96); centralized traffic control on a portion of the Carberry subdivision, $1,200,000 (100); and complete the first year's work of a three-year program for new car-cleaning and one-spot freight car repair facilities at Coquitlam, $3,300,000 (20).

Chesapeake & Ohio: Improve and enlarge Wyoming yard at Grand Rapids, Mich., $2,535,726 (30); and install centralized traffic control between Limeville, Ky., and Parsons, Ohio, $1,050,000 (45).

Chicago, Burlington & Quincy: Install centralized traffic control between Montgomery, Ill., and Galesburg, $1,606,744 (25); rearrange main tracks, construct additional yard tracks and a new freight house at Western Avenue, Chicago, $2,443,504 (40); and construct a diesel maintenance shop, remodel present enginehouse and rearrange trackage in freight yard at Lincoln, Nebr., $2,716,930 (96).

Delaware & Hudson: Relocate railroad facilities in connection with arterial highway construction near Albany, N.Y., $2,770,000 (98).

Great Northern: New tracks for the National Taconite plant at Keewatin, Minn., $1,270,270 (15).

Illinois Central: Relocate 16 miles of line because of the construction of Barkley Dam at Kuttawa, Ky., $6,000,000 (100); and install centralized traffic control between Homewood, Ill., and Gilman, $1,000,000 (100).

Lehigh Valley: Connection to the Central of New Jersey to utilize combined operations over a single route between Bethlehem, Pa., and Wilkes-Barre, $1,250,000 (75); reconstruct main line between Cranford, N.J. and Newark and make grade separation at three crossings, $2,250,000 (60); and remove one main track and install remote control signaling in both directions between Sayre, Pa., and Manchester, N.Y., $1,000,000 (80).

Louisana & Arkansas: New freighthouse and office building at New Orleans, La., $1,365,034; and a new freighthouse and office building at North Baton Rouge, La., $1,120,383.

Louisville & Nashville: A new bridge, 10,200 ft long, at Bay St. Louis, Miss., $4,984,000; centralized traffic control between De Coursey and N.E. Patio on the Cincinnati division, $1,403,855; relocate portion of the Wetumpka branch; and construct a new steel-and-concrete bridge at Wetumpka, Ala., $1,107,246.

New York Central: Rearrange tracks and facilities at Mott Haven, N.Y., to release part of yard for sale, $1,601,604 (100); reconstruct 11 miles of line from

Riverside, Mass., to South Station in Boston, $6,076,371 (100); relocate approximately 3 miles of main line and construct new bridges at Portage, Ind., $2,200,000 (45); and a new yard at Portage, Ind., $1,900,000 (53).

Norfolk & Western: Provide double running on both eastbound and westbound main tracks between Hull, W. Va., and Matawan and install traffic control between Wharncliffe, W. Va., and Gilbert, $1,007,[illegible] (60); centralized traffic control between Columbus, Ohio, and Sandusky, $1,810,000 (50); a 7.5-mile spur track up Left Fork of Peter creek near Phelps, Ky., $2,900,000 (1); additional yard facilities at Bellevue, Ohio, $13,360,500 (25); an 8.5-mile extension to Delorme branch at Delmore, W. Va., $3,860,000 (100); and 7.2 miles of line up Ghents creek near Roxboro, N.C., $1,750,000 (100).

Norfolk Southern: Construction 31.5 miles of main line between Chocowinity, N.C., and Lee Creek branch to serve Texas Gulf Sulphur Corp., $2,935,080 (100).

Northern Pacific: A 5-mile line change at Granite, Ida., $3,000,000 (100).

Pennsylvania: Install enginehouse and car-shop facility in Pavonia yard at Camden, N.J., $1,026,500 (90); renew deck-girder spans on 10 undergrade bridges near Chester, Pa., $2,354,900 (100); replace two float bridges and tug-filling station at Jersey City, N.J., $1,056,300 (100); provide clearance for high cars on Eastern Region, $2,000,000 (100); relocate Meadows Branch No. 1, new yard office and entrance to TrucTrain terminal at Kearny, N.J., $1,146,400 (95); renew steel spans on elevated branch at Philadelphia, Pa., $1,686,800 (65); additional yard tracks and facilities to handle increased traffic from Ford Motor Co., $1,700,000 (40); yard facilities to handle traffic to new General Motors Co. plant at Lordstown, Ohio, $2,400,000 (80); and reconstruct bridge No. 294.89 at Riverdale, Ill., $2,020,000 (20).

Piedmont & Northern: A 16.12-mile extension between Mt. Holly, N.C., and Terrell, $2,835,942 (100).

Reading: Electrification between Newtown Jct., Pa., and Fox Chase, $2,000,000 (60).

Richmond, Fredericksburg & Potomac: Modernize north hump of northbound classification yard at Potomac yard, Alexandria, Va., $1,219,100 (16).

St. Louis-San Francisco: 33 miles of new line to serve Lead Belt at Salem, Mo., $6,000,000 (1).

Seaboard Air Line: Industrial park development at Miami, Fla., $2,283,000 (30); and major improvements to yard and shop facilities at Hialeah, Fla., $1,634,800 (93).

Southern: Centralized traffic control on the Danville and Washington divisions, $5,165,680; and a new yard at Macon, Ga., $10,000,000 (75).

Union Pacific: All-electric "NX" route interlocking between Missouri River bridge and Gilmore near Omaha, Neb., $2,971,600 (30).

Containers: How many, how soon?

Containers? Everybody predicts a big future for them. But how do you work toward that future? Alfred E. Perlman, New York Central president, has some suggestions—and he aired them in the Transportation Association of America's National Transportation Institute in New York last week.

After citing the "phenomenal" growth of highway-rail-water service by container, he pinpointed two things that have held back still faster progress: lack of standardization of both hardware and paperwork.

On the domestic scene, he said, "The crying need is for greater uniformity of equipment and terminal design." Large roads such as the Central can generate enough container traffic to support any kind of service, equipment, terminals, but the price is "a captive system." These roads cannot go far on regional or national interchange.

● **Speedup overseas.** In international services, however, the Central's top officer was able to point to some real breakthroughs: formation of the ICS leasing service, and slicing of red tape.

The Integrated Container Service, Perlman explained, was formed to straighten out ownership and control problems in moving valuable containers all over the world. ICS owns 1,000 vans, and has them ready for lease by member companies on a per diem basis.

ICS plans to order another 1,000 vans, he observed, "in expectation of increased international trade, and also the inauguration of the Trans-European Road Rail Express, which will run from the Benelux countries to Milan, Italy. This train will handle not only international containers, but intra-European containers as well."

As for bureaucratic delays, he listed these problems: customs treatment of containers, lack of a standard identification system, complex documentation and tariff requirements.

But he found important progress, too. "Last summer our Flexi-Van containers were approved for customs-bonded transportation throughout Europe by the Transports Internationaux Route Convention. This permits bond-free and examination-free crossing of national borders in Europe."

What's more, the new U.S. short-form ocean bill of lading makes it possible to eliminate as many as 46 documents outbound and 78 inbound.

● **The real goal.** Perlman doesn't consider intermodal coordination the be-all and end-all, though. The ultimate goal, as he sees it, is "a department store concept of transportation."

What the U.S. lacks, he said, is integrated transportation companies that can offer their customers services across the whole spectrum of modes. "Competing carriers," he noted, "can work with each other up to a point. But sooner or later, one or the other is going to find itself working against its own best interest in promoting the coordinated service . . . In the long run, the only road to a truly effective coordination of the various means of transportation is the road of common ownership."

● **Another view.** Within the present transport framework, what's being done to improve coordination? REA Express President William B. Johnson, also on the TAA program, had a report on this.

President Lyndon B. Johnson, he explained, proclaimed 1965 International Cooperation Year, and REA's chief officer became chairman of the National Citizen's Transportation Committee, which drew up 25 recommendations, of which 6 were listed by him as of first importance:

—Drastic action to eliminate unnecessary and outmoded paperwork, beginning with a scientific management review.

—Centralized coordination in the Department of Commerce.

—A U.S. national policy objective proclaiming total intermodal integration in equipment, stressing containers.

—Government support for private international transport training.

—A United Nations program to establish international statistical standards.

—Reaffirmation of two-way travel and reciprocal waiver of visas. ■

Labor: Debate and dispute

(Continued from page 68)

ing-on local-properties" statements—there was one comment that may deserve a second listen. One observer, after pondering the crew-consist pact with eastern roads, raised the question of just exactly what the carriers gained by making the agreement. As the story goes, a union source had an answer: The easterners can go to bed Jan. 27 and be pretty sure they'll be operating Jan. 28—but nobody else can be quite that positive.

So the year 1966, over-all, shapes up as one of many imponderables; Will the BLF&E—or can it—maintain the hard line indicated by its notices? Where's the BRT headed in the crew-consist field? How much will the ops try for and how hard will they push for wage-benefit gains? How much inter-union raiding will go on—and will '66 unlike 1965, see any union coming out with victories sufficient to offset the considerable expenses incurred in seeking and defending contracts?

Finally, there's the imponderable of government. All three branches of the federal establishment—executive, legislative, judicial—were deeply involved at one stage or another as the work rules case unfolded in the years following 1959. It could happen again—though both carriers and unions are saying that government isn't needed, that disputes between reasonable men can be settled without intervention.

• **Down in Washington . . .** There's another angle, however that may bear consideration. The Administration has come under fire for its stern line against price increases among major industries—steel, aluminum, copper. At the same time, there was criticism of inaction or delayed action by Washington in the paralyzing New York transit strike. The core of the critical comment is that the government is willing to joust with business and apply whatever pressure is required to hold the line on prices—but that it is far less willing to get into a tussle with organized labor.

Ironically, this is an Administration which has made much of its sympathetic understanding of business problems. But that image has become slightly faded—and it could be that some opportunity for an exercise of influence over union action would be, if not welcomed, at least not ignored. Trouble on the railroads could provide that opportunity.

The most striking intervention—arbitration legislation in the rules dispute—passed without any rebellion by organized labor generally against the Administration. Moreover, even some union spokesmen will concede that the rail brotherhoods seldom figure in a major way in the high councils of the AFL-CIO.

• **Drive for the dollar.** Even in this year of uncertainties, however, it would seem to be safe to forecast the biggest drive in a long time for better wages, bigger benefits, improved working conditions. The industry showed total net income for '65 of about $775 million—and, though carriers contend that net is still inadequate for the railroad rebuilding job that must be continued, the organization can be expected to play the improved net for all it's worth in pressing their money demands.

The Firemen are first in—and, says President H. E. Gilbert, they're determined "to secure needed economic gains at a time when the railroad industry is enjoying near-record earnings and profits. Railroad transportation employees have not adequately shared in the great prosperity of the industry, but 1966 will alter that situation."

So, after a year of relative stability in industry management-union relations, all the props are in place for a year of debate and dispute. Hopefully, it could also be a year of final resolution of the rules case and a year in which realistic positions are adopted all around on economic issues. But to paraphrase the BRT-er quoted earlier, "who can be sure—and of what?" ■

Merger trend is stronger

(Continued from page 78)

terms in those cases can be quite complicated. It can get downright fantastic if railroads trying to merge enjoy different rates of improvement in business during the long time they wait for Commission handling of their case.

• **A case in point.** N&W and C&O are roads that have figured before in merger news in recent years. In a merger information bulletin they sent to their shareholders about a week ago, they described their recent growth-by-merger thus:

In 1959 N&W merged with the Virginian. The latter's lines complemented N&W's lines in the West Virginia coal fields and paralleled them to the port of Norfolk. In 1964 N&W merged with Nickel Plate, leased the Wabash, bought the Sandusky line of the Connecting Railroad and added two small roads to its system. This gave N&W its own access to the Great Lakes and to the producing and marketing centers of the Midwest. These consolidations were reflected in the expansion of N&W's gross revenues from $203.9 million in 1958 to $558.2 million in 1964—even though generally improved business for the industry helped substantially during the period. N&W's net income almost doubled from $43.5 million in 1958 to $80.1 million in 1964.

In 1963 C&O acquired control of B&O by stock purchase. The B&O lines, largely complementary to C&O, enlarged C&O's access both to Midwest traffic centers and to Atlantic ports. C&O undertook coordination between itself and B&O and the rehabilitation of B&O. Success of this program, says C&O, is reflected in B&O net income of $13.4 million for the first ten months of 1965, compared with $7.2 million for all of 1964, $5.5 million for 1963, $1.6 million in 1962 and a loss of $31.3 million in 1961.

Complicating the picture even more are the interests of B&O and C&O in roads that will be included in the N&W-C&O consolidation if Commission approval is secured. Since 1932 the B&O interest (43.9%) in Western Maryland has been trusteed for voting. B&O is now asking the Commission to terminate the trust. C&O owns an additional 20.8% of WM, giving C&O-B&O about 64.8% of WM. Further complications stem from N&W-C&O agreement to take in Erie, Reading, D&H, CNJ and B&M if certain conditions are met.

• **Complications of prosperity.** And it isn't only the complications of previous marriages that make mergers slow. Not unnoticed by industry financial experts and shareholders of railroads involved in merger proceedings are the variable effects of the industry's commercial comeback.

For example, revenue ton-mile performance of ACL in 1964 was up 30.9% over 1960, whereas SAL's increase was only 19.4%. PRR in the same period chalked up an increase of 16.3% against an NYC increase of only 4.7%. In the 1960-64 period, GN posted an increase of 8.5%, NP's tonnage increased by 13.9% and Burlington's traffic was up 18.6%. Smaller eastern road performance figures during the period show why it's difficult to work them into mergers. New Haven was up 5.4%, B&M was up 3.8% and Reading was up only 2.1% in a period when increases in two figures were common in the industry.

It would seem that speeding up the process of merging roads is the only way to head off even more complications in the modern merger act. ■

Mass transit: Ready to go

(Continued from page 59)

Central by subway trains; use of BMT subway tracks by Long Island Rail Road trains coming through Brooklyn into lower Manhattan.

The PATH system, formerly the Hudson & Manhattan Railroad, took final delivery of 162 air-conditioned cars from GSI, and is going to get an additional 44 cars, also from GSI.

In the Quaker City, SEPTA, the Southeastern Pennsylvania Transportation Authority, and PTC, the Philadelphia Transportation Company, agreed on a $59.7-million sale price for transferring to the former the latter's transit facilities. SEPTA is already responsible for commuter operations on PRR and Reading lines, and with the new acquisition, can presumably move toward greater coordination of services.

Acquisition of PTC also means that SEPTA can go ahead with plans for extensions both north and south to the Broad Street subway; $90-million has already been committed.

On the other side of the river, the Delaware River Port Authority broke ground on its 10.6-mile $70-million line from Philadelphia-Camden through southern New Jersey to Lindenwold. Completion date will be sometime in 1967.

● **Boston network grows.** The Massachusetts Bay Transportation Authority will shortly issue a detailed master plan for subway, bus and rail commuter service in the Boston area. The MBTA already has allocated $75 million for two rapid transit projects: a 12-mile South Shore extension (a take-over of the New Haven's Old Colony Line); and a 12-mile extension to Reading.

Chicago is investigating a $150-million plan for construction of a new downtown subway to replace the elevated through the Loop, and act as a distributor between suburban commuter terminals.

Pullman-Standard provided the CTA with 180 air-conditioned cars. Seventy of them along the Lake St. route will be equipped with an on-board electronic control system supplied by GRS.

Down in Washington, the HHFA, which disburses federal transit-aid funds, is being absorbed by the new cabinet-level Department of Housing & Urban Development. The change indicates greater awareness of urban problems, transit included.

How does 1966 shape up? The kettle will keep boiling—and probably stay that way through the decade. ■

GUS WELTY'S

LINES ON LABOR

Welty

HEAD START FOR THE BRC—Under current agreements between the carriers and the non-operating unions, no changes in wage rates can take place before Jan. 1, 1967. And the Brotherhood of Railway Clerks wants to make sure changes are made then, not later on in '67.

Before the end of this month, the Clerks plan to file Section 6 notices in an attempt "to bring the next wage movement to a final determination before the expiration date of the current contract, Dec. 31, 1966." BRC President C. L. Dennis says it's hoped that all of the non-operating organizations will serve uniform notices on the carriers. However, if this is not possible, our organization intends to progress this matter on its own."

WHAT THE CLERKS WILL ASK—BRC notices are expected to lead off with a demand for an 18% wage increase effective Jan. 1, 1967, plus double-time for hours worked in excess of eight daily and 40 weekly and for the sixth and seventh days of work in a workweek. Proposals for shift differentials ranging from 17½-to-22½-cents-per-hour and for longevity pay of up to 20-cents-per-hour will also be included. In addition, the Clerks will ask for 12 paid holidays and for improved vacations, ranging up to 30 consecutive work days for employees with service of 15 years or more.

WHY START SO SOON?—Dennis explains the "Operation Earlybird" in this way: "By commencing this movement before the first of February, there is no reason why the matter cannot be brought to a successful conclusion by the end of the year. This will preclude and eliminate arguments, such as we have had in the past, respecting retroactivity—something which is sometimes difficult to sustain. We are limiting ourselves to strictly economic items, keeping our demands simple and uncluttered so that we may progress them swiftly." The current contract covering the non-ops was signed in November 1964, and it did provide almost a full year's retroactivity—with increases of 9-cents-per-hour negotiated for Jan. 1 of 1964, 1965 and 1966. But, the Clerks note, "it did not always work that way in the past and, in addition, our members were inconvenienced by being made to wait for their increases."

FROM ALL SIDES—The Clerks' move, whether or not the other non-ops go along, will add one more big item to a management-union calendar that already seems as jammed as New York traffic during the transit strike. But Dennis is determined to get going, to "break away from the patterns of the past which saw negotiations drag on from year to year." At the same time, he—along with various other union chiefs—will be pushing for action on supplemental-pension demands. Conferences on this issue were scheduled for last week, but in Dennis' view "no doubt we will have to go to Congress on this matter, as it appears we must go the legislative route. Therefore, we intend to step up our own action on the Washington front."

MEANWHILE, AT REA—Now that the Clerks have turned back the Teamsters in a representation election at REA Express, they're free to press for contract improvements. And the movement bears watching. The BRC is demanding wage increases and rules revisions—but it's also proposing a guaranteed-annual-pay program. The BRC plan would give every employee with one or more year's service a lifetime job and, as minimum compensation, a guaranteed annual wage equivalent to the total compensation received from REA in the preceding calendar year.

NEW **PRODUCTS** REPORT

Portable Radio (RA-1)

A new FM 2-way radio weighs only two pounds, yet has an output power of 1.5 watts. It is completely solid-state using epoxy-sealed modules for servicing and replacement. Known as Tek 10/4, the radio operates on standard dry cells or rechargeable nickel-cadmium batteries for a minimum of 16 continuous hours before recharging is needed. The radio has a coiled or flexible helical antenna. A chest harness, earphones and external antenna are available. *Tek Products Inc.*

New Heavy-Duty Retarder (RA-2)

A new weight-proportional retarder is available for controlling the speed of cars weighing up to 160 tons. Known as Retard-All, it is mounted on standard ties and accommodates a wide range of running rail from 100-lb RE to 140-lb RE. Either a brake beam or rail can be used as the braking element. The single-rail retarder comes in 16-foot sections. The retarder is hydraulically operated, with a closed system eliminating pumps or motors. For some applications an air assist feature is provided. Total air requirements are less than three cubic feet per operation for a 16-foot section. The electric power required to operate one 16-foot section is only 200 watts.

The new retarder can be reset from non-retard in less than one-half second. The hydraulic package contains only three elements to operate each lever-pair (the ram, the valve and the accumulator), and there are only five lever-pairs in each 16-foot section. *Union Switch & Signal.*

'Hot Box Preventer' (RA-3)

The Hot Box Preventer, an electronic computer attached to track scales, reacts automatically when it finds one end of a car overweight because of improperly placed load, a condition which could cause axle bearings to overheat even though total load is within car's capacity. The device, "successfully tested by the PRR," is said to identify any overloaded set of wheels before a train, moving at up to 7 mph, reaches main line. When overload is found, information is transmitted to nearest control point where train is stopped and load adjusted, or car cut from train. The device is optional equipment for use with the Railweight, a weighing system which automatically records the individual weights of cars coupled in a moving train. It employs a 12½-ft electronic scale which weighs one end of a car at a time. A computer instantly adds the two weights together. The total is printed on a tape either at scale or at a remote point. The scale is said to substantially reduce car weighing time and to eliminate delays of shipments of up to 24 hr necessitated by switching for weighing. *International Railroads' Weighing Corp.*

Heat-Transfer Fluid (RA-4)

Therminol FR-O, a modified chlorinated biphenyl with an operating range up to 500 deg F, is a fire-resistant, heat-transfer fluid for use in tank-car heating systems and other applications requiring low-temperature pumpability. In industrial space heating, the fluid is said to eliminate danger of freeze-up during cold-weather shutdown. It supplements other materials in the Therminol fire-resistant fluids listed by Underwriters' Laboratories. *Monsanto Co.*

RAILWAY AGE
WEEKLY

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16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55
56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75

PLEASE SEND INFORMATION ABOUT PRODUCTS DESCRIBED ON PAGE 116 MARKED RA-1 RA-2 RA-3 RA-4

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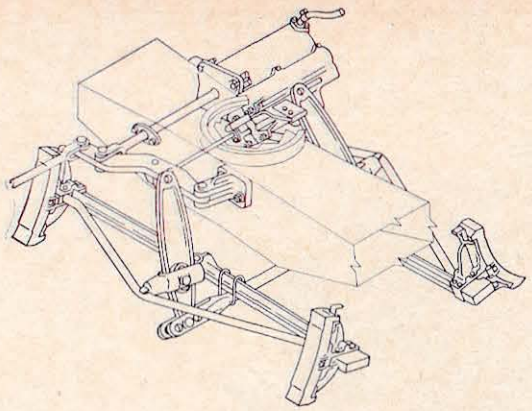

The Absco Brake is for people who don't like to spend too much.

It's a fact: the Absco Truck-Mounted Brake saves you money in inventory and COT&S.

You save on inventory because practically all parts which would require normal replacement are standard —especially the brake beam. Maintenance is easier and costs less because you don't have to disassemble the truck completely to get at the brake. And all evidence indicates that COT&S costs will be surprisingly low compared with other truck-mounted brakes.

What's more, the Absco Brake is less vulnerable to damage than most brakes, because of its sheltered location, cushioned from shock on the sprung bolster.

Also, with todays' trend to automatic slack adjusters, ours is the only truck-mounted brake with this feature.

Would you like more information on the new Absco Truck-Mounted brake? See your Brake Shoe man, or write Railroad Products Division, American Brake Shoe Company.

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Railroad Products Division, 530 FIFTH AVENUE, NEW YORK, NEW YORK 10036

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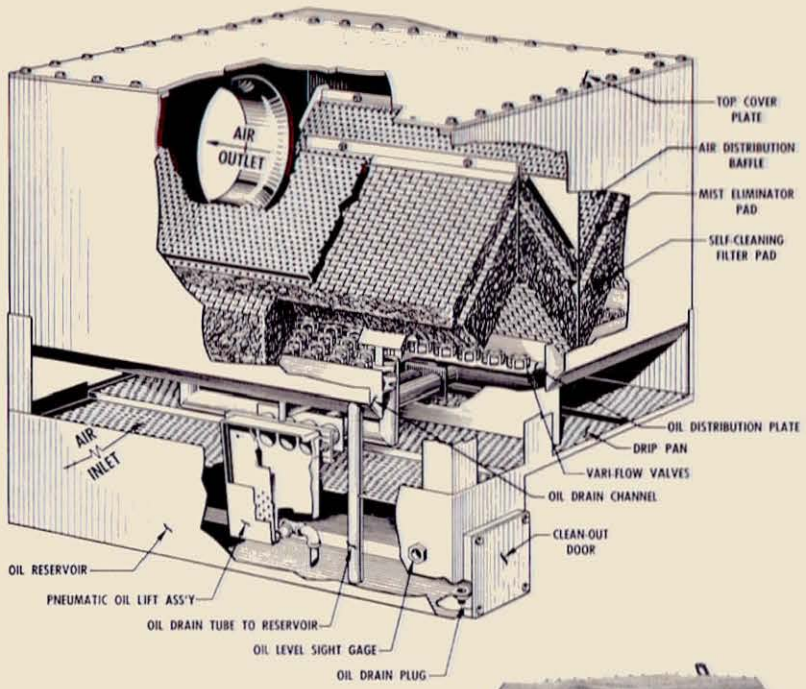

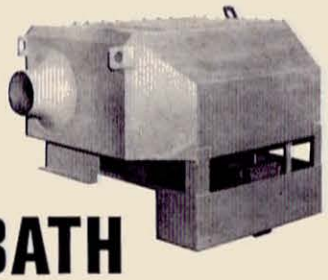

CYCOIL OIL BATH ENGINE INTAKE FILTER

for heavy-duty locomotive requirements

- **Fits Limited Space Requirements of Locomotives**
- **Operates Under Any Dust Loading Conditions**
- **High Cleaning Efficiency**
- **Low Maintenance, Minimum Upkeep**
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Self-cleaning filter pads are washed in place *automatically*, by a positive oil-circulating system. Under normal operating conditions, filter pads do not have to be removed for cleaning. Normal maintenance required is accomplished by maintaining proper oil level in sump and by changing the oil and removing sludge at regular intervals.

Ask AAF about your locomotive air filter needs. In addition to the Cycoil, AAF makes the Dust Louvre Inertial Separator and the AMER-Kleen low cost, disposable, panel-type filter, as well as many other products which can be adapted to meet your air filtering needs.

For more information write E. F. Hickey, American Air Filter Company, Inc., 111 Central Avenue, Louisville, Kentucky.

AAF **American Air Filter**
BETTER AIR IS OUR BUSINESS

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Freight and Passenger Car Charts

These charts are very helpful to AAR billing clerks, mechanical engineers, purchasing and stores personnel, car inspectors, write-up men, car foremen, and anyone else who needs a knowledge of car parts and their relation to each other.

The charts include a cutaway diagram of the car and a listing of important parts with arrows showing where the part is located. These charts are a part of standard training programs used on a number of major railroads.

$2 each
$10 for any six

If you are not satisfied
YOUR MONEY WILL BE REFUNDED
if you return the charts to us within 30 days

THE RAILWAY EDUCATIONAL BUREAU
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Please send the charts I have checked below. If I am not satisfied I will return the charts within 30 days for a full refund. I enclose a check or money order for $2.00 for each chart or $10.00 for any six charts.

- ☐ Streamlined light weight passenger car (16x25 inches)
- ☐ Covered hopper car (20x30 inches)
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- ☐ Air conditioned chair car, 1930 design (18x35 inches)
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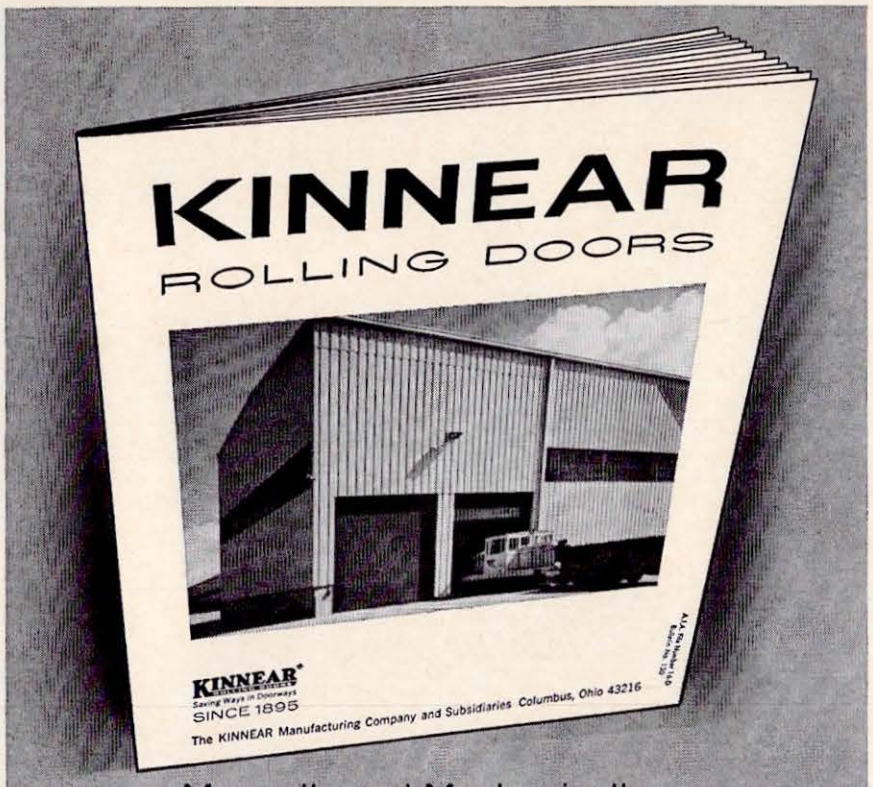

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When selecting or specifying doors or closures for special openings, you'll find this catalog, indexed and color keyed for your convenience, very helpful. It details features of Kinnear Rolling Door design that provide an unbeatable combination of lower door costs, extra protection and higher efficiency . . . **plus** the reliability of a nation-wide organization recognized 70 years for its specialized door manufacture and complete door service. Call your local Kinnear Representative (listed in the Yellow Pages under "Doors") if you'd like the immediate counsel of Kinnear's experienced Engineers on your current door needs.

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Legislation key is LBJ

(Continued from page 76)

pulsion. So they may be expected to fight it, even if it becomes a Johnson-Administration proposal.

As usual, they will also fight other legislative proposals which they consider adverse to the industry. These include the proposed moratorium on mergers, labor union proposals to amend the Railway Labor Act, and any new union call for what management might regard as undue liberalization of the Railroad Retirement and Railroad Unemployment Insurance acts.

● **A 1965 setback.** In the latter area, railroads took a setback last year. Over their all-out opposition, Congress went along with the unions and a majority of the Railroad Retirement Board, increasing taxes and liberalizing benefits under the Retirement Act.

The so-called "Gray-Area" Act was the only general transport legislation enacted last year. While railroads did not oppose this, it was not of great interest to them. It is designed principally to curb illegal for-hire trucking, although it does have reparations provisions giving shippers the right to recover from truckers or forwarders charging unlawful rates. This was a gain for uniform regulation, since the Interstate Commerce Act already had reparations provisions applicable to railroads and water carriers.

Enactment of the law authorizing the Department of Commerce to continue its studies of high-speed passenger service was a bigger plus for railroads last year. Although the industry had no official position on this legislation, there was no railroad opposition. And some roads, including the Pennsylvania, are enthusiastic supporters of the program, which Congress not only authorized but also financed with an appropriation of $18,250,000 for the current fiscal year ending next June 30.

As to railroad legislation with which Congress will be concerned first this year, the incentive per diem bills are good prospects. These bills, on which the railroad industry is divided, would give the ICC authority to include incentive factors in per diem rates for rental of freight cars. One of them passed the Senate last year, and another, with different provisions, cleared the House Committee on Interstate and Foreign Commerce. This clearance came too late in the session to get House action before adjournment. But it did leave the proposed legislation well lined up for enactment early this year. ■

Buy it. Lay it. Forget it.

CF&I rail, accessories

That's about the size of it. With CF&I Rail, once it's down you can forget about it. For years and years.

Reason? You select the type of rail and the section to meet your road's needs or preferences. To keep pace with today's increasing loads lay standard CF&I Rail. For heavy wear on grades or curves—or excessive wheel load conditions—there's CF&I Hi-Si® Rail.

CF&I's 136, 119 and 106 lb. sections, Hi-Si, basic oxygen steel rail . . . all were pioneered in cooperation with the railroad industry. A working partnership we intend to continue. The Colorado Fuel and Iron Corporation, Denver, Colo.

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STEEL

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PEOPLE IN THE NEWS

ATLANTIC COAST LINE.—**R. F. Paulk,** assistant general storekeeper, Waycross, Ga., appointed general storekeeper there, succeeding **C. I. Cavenaugh,** who retired Jan. 1, after more than 45 years with the ACL.

Ralph Miller appointed staff assistant, Personnel and Labor Relations Department, Jacksonville, Fla.

W. D. Quarles, Jr., director of labor relations, Jacksonville, Fla., appointed assistant vice president—personnel.

F. B. Massingale, Jr., named general agent, Fayetteville, N.C.

W. F. Wingate and **J. W. Lamberson** appointed general supervisors of safety, Jacksonville.

E. L. Spicer, master mechanic, Waycross, Ga., retired Oct. 1 after 50 years with the ACL. **C. O. Carlson** is now master mechanic at Waycross.

BOSTON & MAINE.—**Richard J. Sullivan,** general sales manager, Boston, Mass., appointed assistant vice president—traffic.

BURLINGTON.—**Gail Link,** advertising manager, retired Jan. 1 after 47 years of service. With his retirement, the road's advertising functions will be moved to the Public Relations Department. Title of **Albert M. Rung,** director of public relations, will be expanded to include advertising.

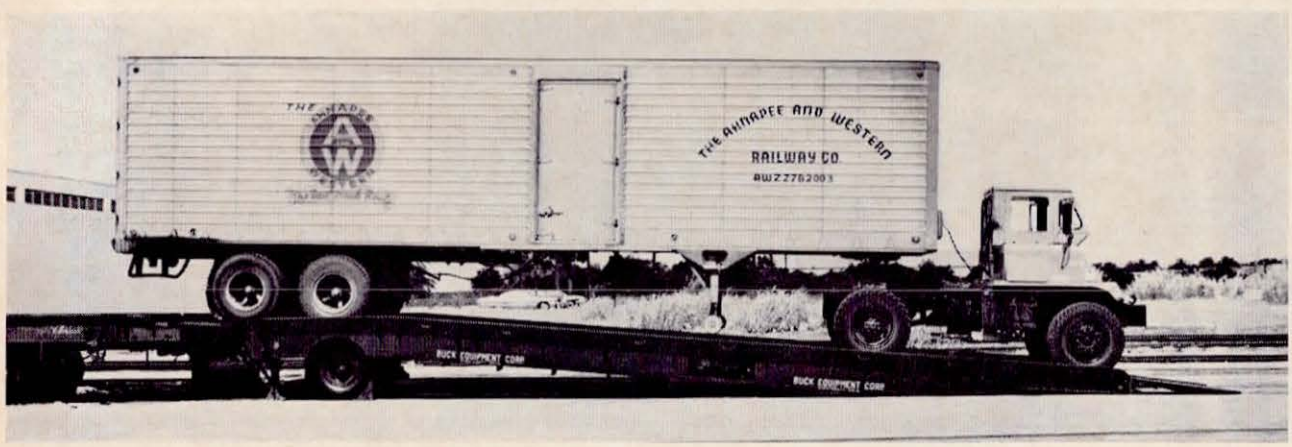
Cecil G. Kersey named director, personnel development. He was formerly executive vice president, Burlington Truck Lines, and will remain on its board of directors.

The Burlington has established a marketing and research division and is making major changes in its traffic department. **Clarence E. Larsen,** freight traffic manager, Omaha, named assistant vice president-marketing, Chicago. **Fred E. Deines,** freight traffic manager, Chicago, appointed assistant vice president-sales. **Pearl L. Smithburg,** general freight traffic manager, Chicago, named assistant vice president-staff. **Starr S. Hankis,** western traffic manager, San Francisco, named assistant vice president there.

Wayne L. Arntzen, assistant to the general manager, advanced to assistant to the vice president-operation. **Arthur R. MacDonald,** manager of trailer-on-flat-car operations, appointed assistant to the vice president-planning. **Marvin L. Zadnichek,** superintendent, Chicago, promoted to system manager, trailer-on-flat-car and merchandise service.

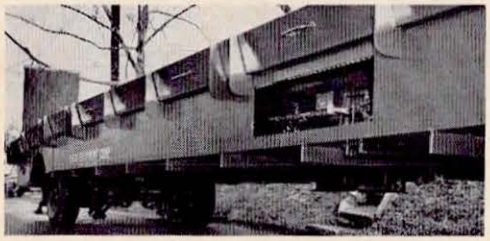
The Burlington has established a sales and service division within the traffic department at Chicago. **Robert J. Fiala,** formerly vice president-traffic, **Burlington Truck Lines,** named manager of schedules, service and equipment utilization; **Ray C. Burke,** general livestock agent, Omaha, named manager of animal and animal products traffic; **Herbert C. Wallace,** general passenger agent, becomes manager of lumber and paper products traffic and will have responsibilities for sales training within the department; **Herschel R. Hudgens,** general perishable freight agent, appointed manager of perishable traffic; **Robert B. Schmidt,** general agent, Detroit, named manager of autos, implements and machinery traffic; **Joseph R. Scalzo,** commercial agent, Pittsburgh, becomes man-

(Continued on page 132)



Buck Portable Ramp in loading position. Below, on the road to wherever you need it.

NOW BUCK OFFERS FIVE STANDARD PIGGYBACK RAMPS



Buck has a trailer loading ramp for your express needs: Ramps for fixed loading. Ramps with lateral rail for servicing several tracks. Portable, pneumatic tire ramps with either hydraulic or mechanical fifth wheel tractor hook-up. Mechanical kingpin hitch raised and lowered by tractor. Handle trailers to 100,000 lbs. capacity, including low clearance super cargo types. Call Buck for all your auto or trailer loading requirements. First name in quality ramps for flat car or auto rack loading.

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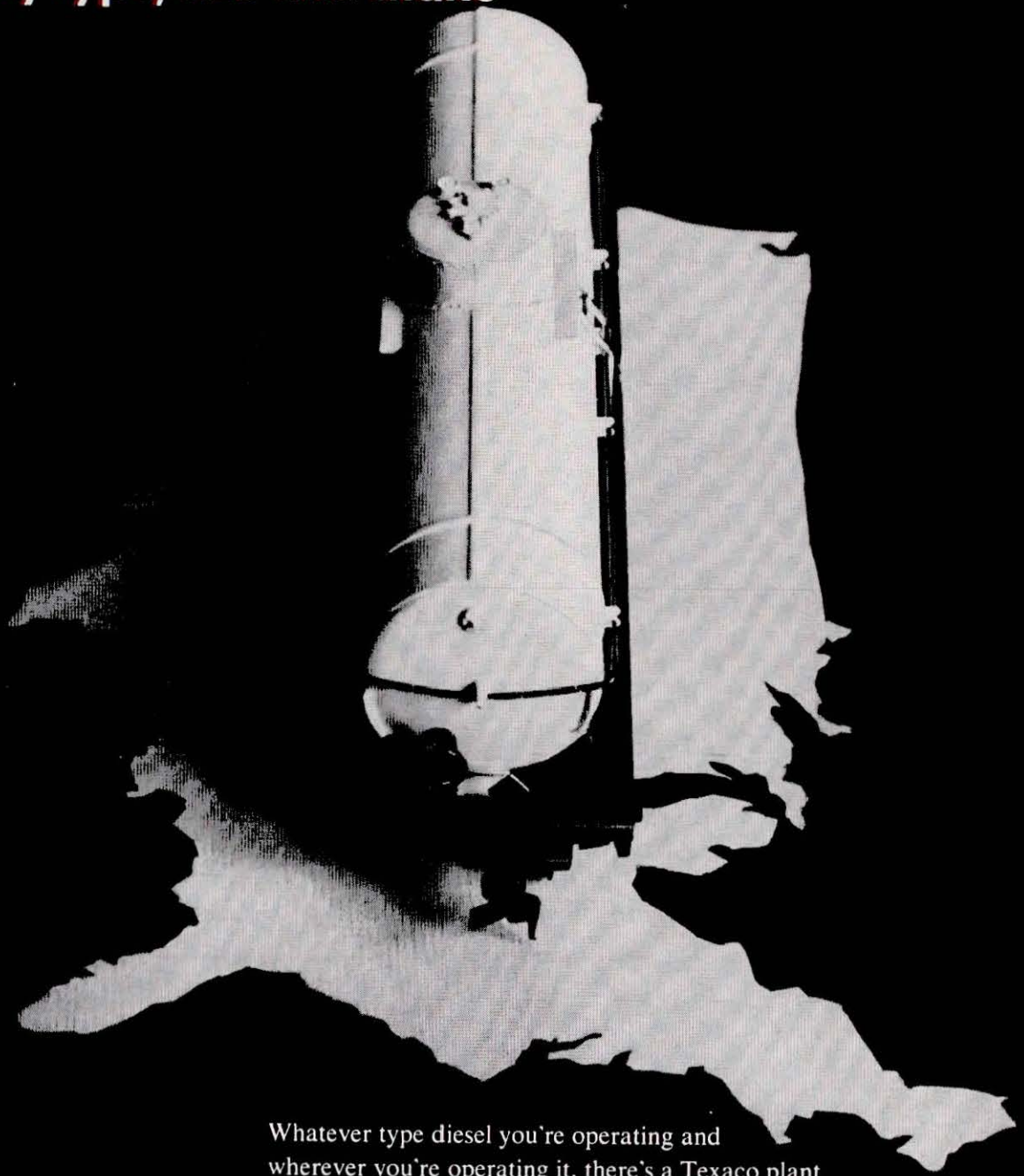
Nationwide, more than 100 Texaco tank-car loading plants can supply fuel for diesels of every type, size and make



Whatever type diesel you're operating and wherever you're operating it, there's a Texaco plant nearby that can supply you with exactly the fuel you need. • Along with Texaco diesel fuels, Texaco lubricants and Systematic Engineering Service are your best assurance of maintaining high engine availability. • Find out how easy it is to get the best. Just call the nearest Texaco Railway Sales office (there's one in New York, Chicago, San Francisco, Minneapolis, St. Louis and Atlanta), or write to Texaco Inc., *Railway Sales Division*, 135 East 42nd Street, New York, N.Y. 10017.

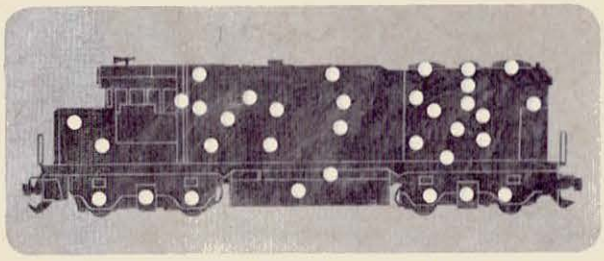
TEXACO

Slash diesel maintenance costs with a Cubic unattended Maintenance Recorder!

Now . . . the high cost of diesel engine maintenance and scheduling can be substantially reduced! The new Cubic Corporation **Maintenance Recording System** is an unattended 19″ x 27″ instrument that automatically measures all vital areas of diesel performance . . . during everyday operation! It gives a valuable check on engine wear, permitting future maintenance to be plotted and scheduled before failures occur.

Measures variety of functions . . .

The **Maintenance Recorder** operates on normal engine current and can be mounted in a variety of sites on most modern diesel units. Once installed, this revolutionary new device simultaneously accumulates continuous information in such general performance areas as: pressures, flows, temperatures, electric power, current, r.p.m., and miscellaneous operating events. Frequency of readings can be adjusted from one-per-hour . . . up to one-per-minute, or less.



Diesel performance can be recorded in any of these vital areas.

Uses standard magnetic tape . . .

Performance data gathered by the Cubic **Maintenance Recorder** is kept on standard magnetic computer tape. A full ten days of engine operation can be recorded between reel changes! The tape is completely compatible with data processing equipment now used by major railroads. Absolutely no additional computer apparatus is required!

Pays for itself . . .

A **Maintenance Recording System** quickly pays for itself in savings! Major reductions in the $20,000 spent annually to maintain an average diesel engine are attainable!

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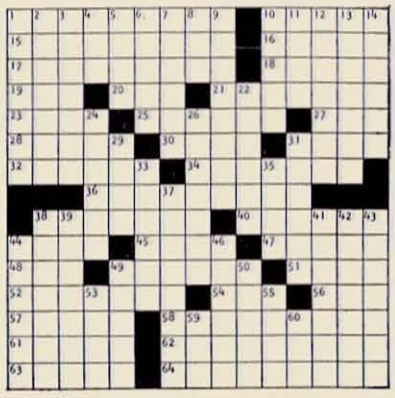
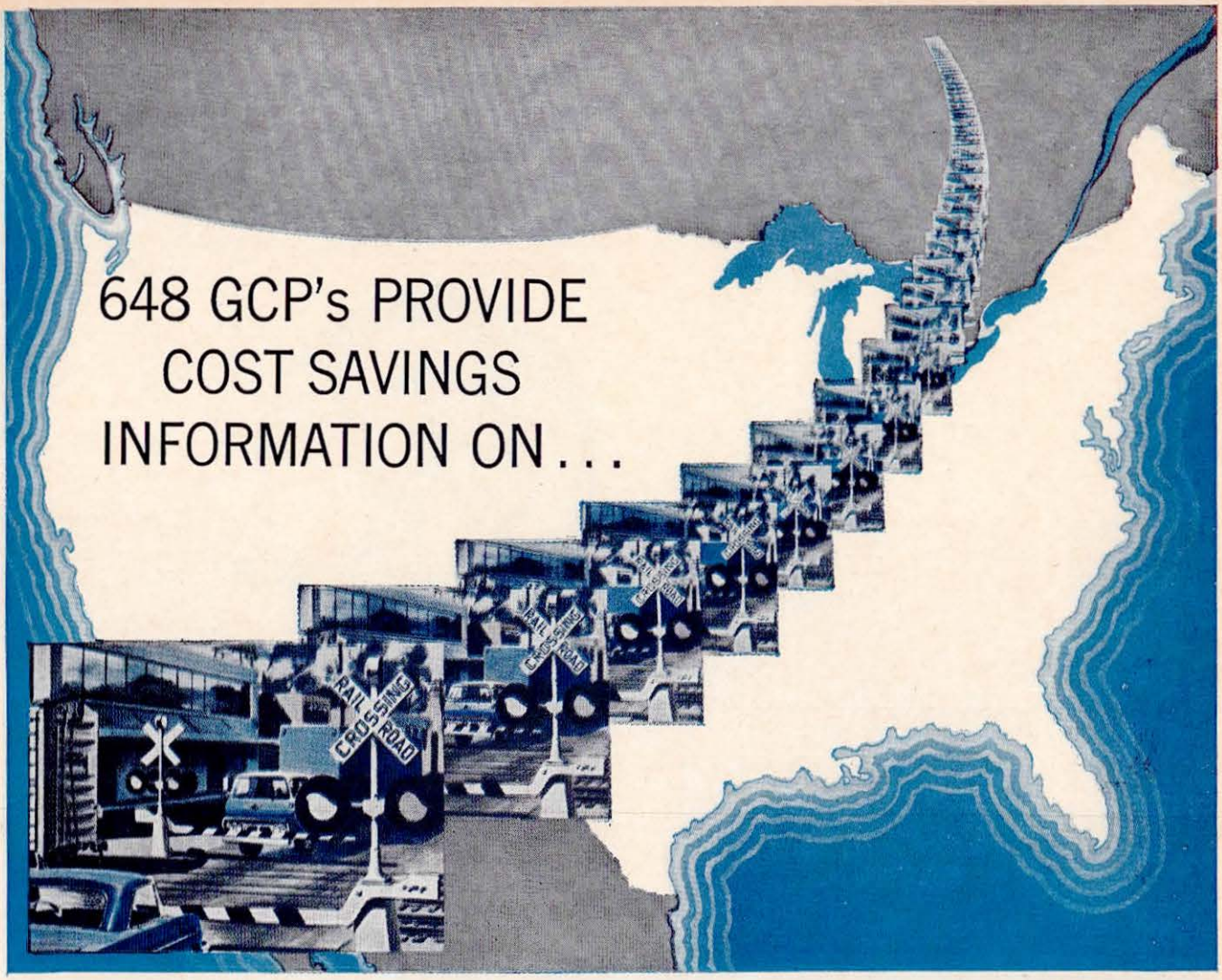
What's a 6-letter word for "Peace of Mind"?



Easy: "Procto".
Short for proctological examination.
Used to detect possible cancer of the colon and rectum. Commonest form of internal cancer.
Inconvenient? Takes about 10 minutes.
Once a year.
Cancers of this type **are** curable. If they're caught early.
"Procto".
Pronto.

american cancer society®



...HOW TO STRETCH YOUR 1966 SIGNALING BUDGET

More than 640 Marquardt Grade Crossing Predictors have been installed in the United States and Canada. The operating history of the units adequately proves the high reliability and cost savings that can be achieved by their use at medium- and high-traffic grade crossings. Savings up to 30 per cent have been realized. GCP's eliminate the need for installation of insulated joints for speed selection, time-out circuits, and associated costly relays. The GCP requires but one set of insulated joints at the crossing and lowers costly annual maintenance. The units also provide a minimum of delay to motorists by giving uniform warning times for constant speed trains, regardless of whether they are approaching at 8 mph or 80 mph.

ELECTRONIC-TRACK-CIRCUIT

The Marquardt Electronic-Track-Circuit is designed for multiple use including grade crossing protection, island circuits, release of electric locks, and other track circuit applications. E-T-C requires no insulated joints. The E-T-C consists of a transmitter, receivers, shunts, and a relay logic box. It may be purchased as a complete system or by individual units. For highway grade crossing protection (including both approaches, an island circuit, relay logic, and relays), the system costs less than $1,000.

Write or call your Marquardt Representative today and ask him to show you how the GCP and E-T-C can help you to efficiently expand your signaling budget for 1966.

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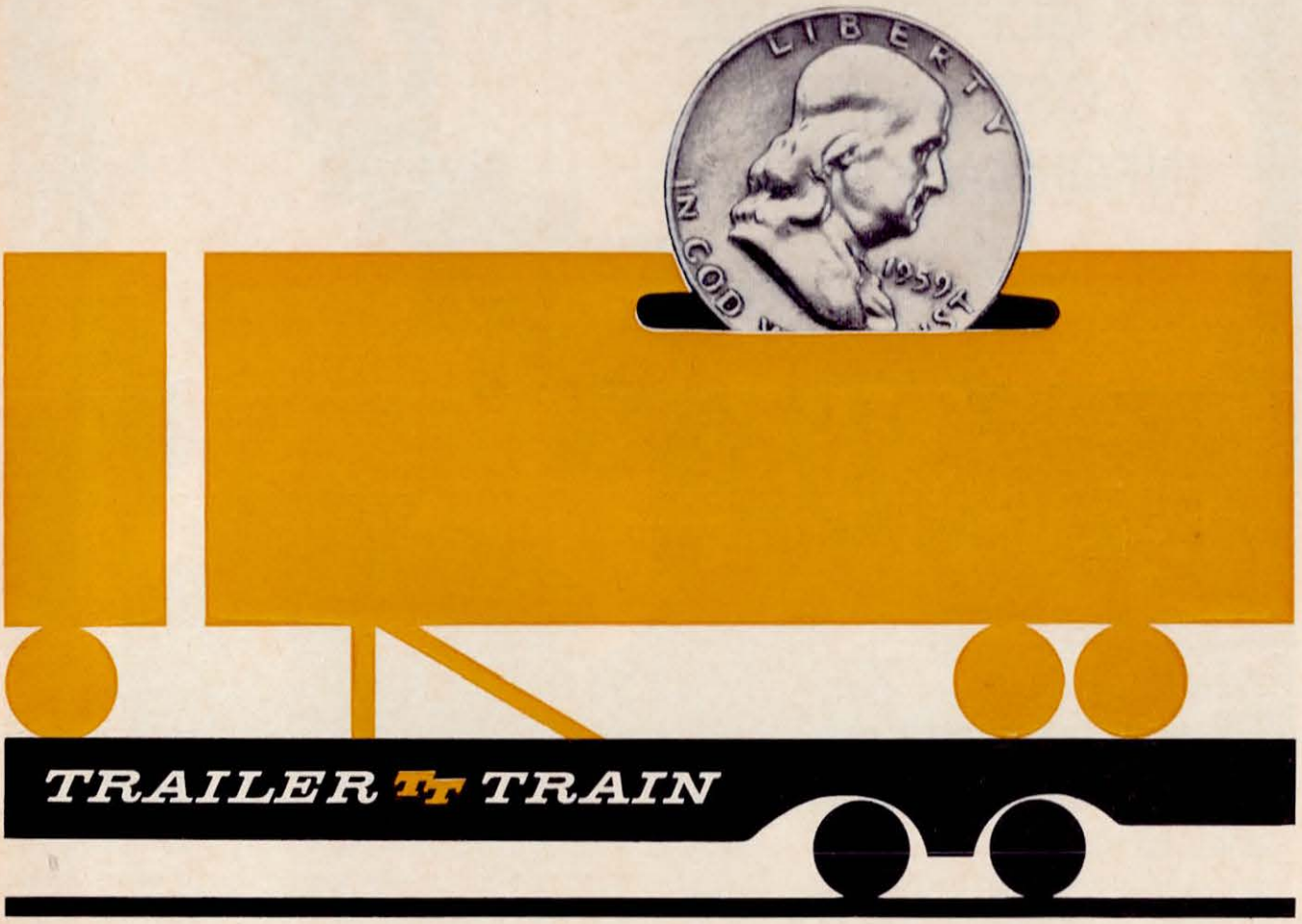
Save your money via ~~Piggy Bank~~ Piggyback!



Piggyback saves you money in the *long* run. There you have just one of the many compelling reasons why so many shippers are switching to Piggyback. In addition to the long-haul economy of the train, this modern transport also offers the flexibility of the truck—with pinpoint pickup and delivery, border to border, coast to coast. Here's another big dividend: Trailer Train members work together to give Piggyback shipments their fastest ride over the most direct routes. For information on the best in Piggyback service, call any railroad—they're almost sure to be an owner-member or an associated member of Trailer Train Company.

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TRAILER TRAIN

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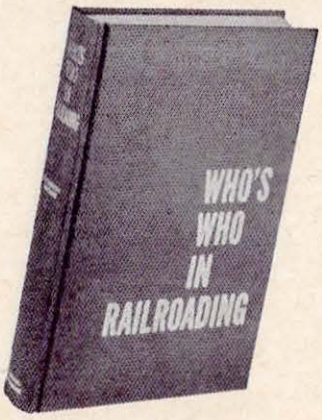
Announcing a new, completely updated edition of one of the most effective sales aids available to the railway equipment sales executive . . .



WHO'S WHO IN RAILROADING

IN NORTH AMERICA

Here is a new and thoroughly up-to-date edition of the "Blue Book" of the North American railway industry. It contains approximately 6,000 entries, of which over 1,500 are new. All entries carried over from the previous edition have been checked and revised to include promotions, transfers, and other important changes. The listings are authoritative, comprehensive, and alphabetically arranged for easy reference. In addition to railway executives, they include leaders in the railway equipment and supply industries, railway labor leaders, members of regulatory bodies, ICC practitioners, transportation economists, and specialists in railway finance.

Complete information is given for each biographee — present title (or position) and business address, home address, age, career (including railroad, professional, military), technical society memberships, public offices held, books and articles written, and much more. The detailed data contained in this unique volume will be widely used by all who have frequent contacts with the railway and railway supply industries.

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Please send.....copies of WHO'S WHO IN RAILROADING, 15th Edition, at $20 each. I understand that unless I am fully satisfied, I may return the book(s) within 10 days and my payment will be refunded. Check ( ) money order ( ) enclosed.

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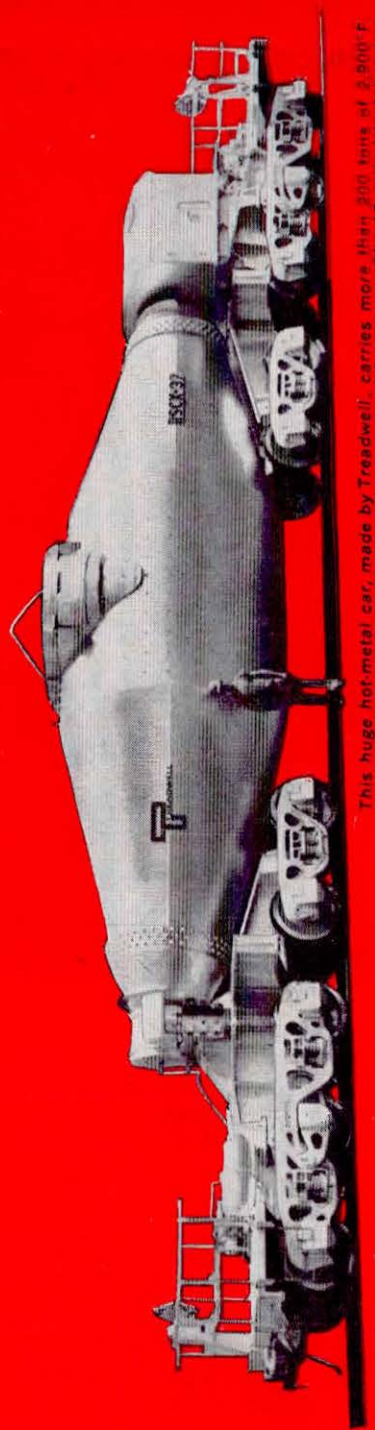
HOT STUFF...

226 TONS OF IT ROLL ON BUCKEYE TRUCKS



This huge hot-metal car, made by Treadwell, carries more than 200 tons of 2,800°F molten metal between the blast furnaces and fabricator. The 15 mile trip takes two hours and forty-five minutes. Cars like this run on an almost continuous basis.

WAIT A MINUTE!

Buckeye makes trucks for more than just "Hot Stuff". Listen!!! ***Buckeye has the widest range of trucks from 125 ton 4-wheel on up*** to meet your needs. In the 6-wheel line Buckeye is a leader and will soon be adding a new 6-wheeler... ***A lighter weight, lower cost truck*** which features ***Buckeye's exclusive equalizer casting.*** This exclusive feature gives even distribution of the load across all axles every inch of the trip!

So how does this help you? The next time a shipper calls you about building cars to haul "Hot Stuff" or heavy loads — ***DON'T LOSE THE BUSINESS*** — call Buckeye. We believe we can help you.

THE BUCKEYE STEEL CASTINGS CO.

Buckeye is America's Most Versatile Producer of Freight Car Castings

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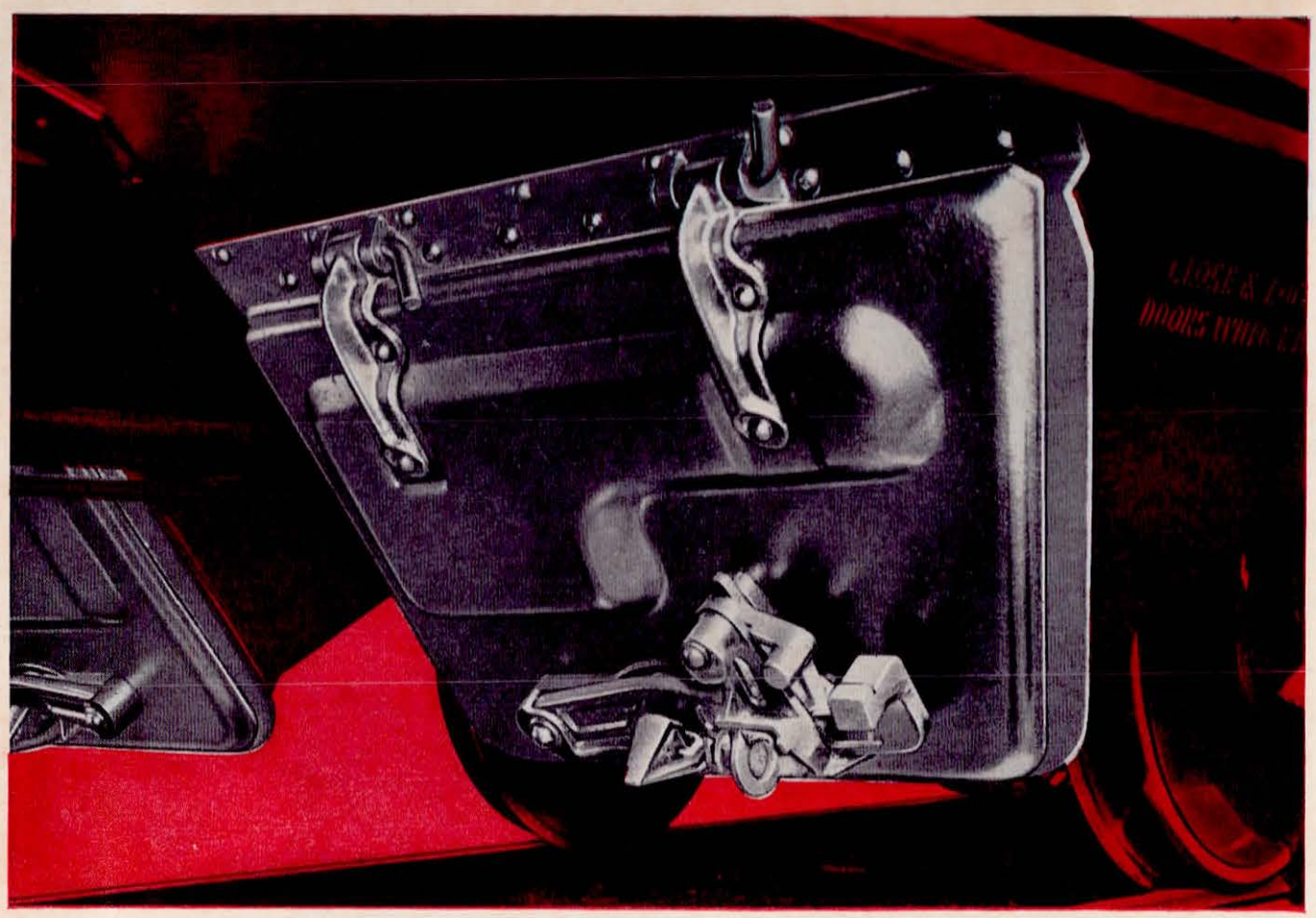

Standard Hopper Doors fit so tight even the finest sand can't leak through. And that's with a steel to steel fit. No gaskets, packing or filling. The reason: Standard precision fabrication.

STANDARD RAILWAY EQUIPMENT
division of STANRAY CORPORATION
Hammond, Indiana • Chicago, Illinois • New York, New York

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MARKET OUTLOOK

Carloadings

Loadings of revenue freight for the week ended Jan. 8 were not available as this issue went to press.

PIGGYBACK CARLOADINGS.—Piggyback loadings for the week ended Jan. 1 totaled 15,994 cars, which carried 25,978 trailers, as compared with 12,827 cars, carrying 21,026 trailers in the corresponding 1965 week.

IN CANADA—Carloadings for the seven-day period ended Dec. 21 totaled 76,599 cars, compared with 76,974 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Dec. 21, 1965	76,599	23,258
Dec. 21, 1964	70,732	23,671
Cumulative Totals		
Dec. 21, 1965	3,887,163	1,219,504
Dec. 21, 1964	3,841,347	1,173,323

C&NW plans record outlay

Chicago & North Western has approved a $66-million capital improvement program for 1966, which represents "by far" the largest such program ever undertaken by the road.

C&NW will purchase 26 3,000-hp diesel-electric locomotives at a cost of $6.8 million, and more than 1,900 new freight cars at a cost of more than $30.5 million. In addition, 5,000 cars are programmed for heavy repair and improvement, most of them at C&NW's Clinton, Iowa, shops. North Western previously ordered 10 double-deck commuter coaches from Pullman-Standard at a cost of $1,703,000.

Rolling stock acquisitions will include: 500 4,427-cu-ft-capacity covered hopper cars suited for grain movement; 300 covered hopper cars designed for handling of cement, clay and similar products; 50 Airslide covered hopper cars for dry bulk food products; 478 box cars, all equipped with lading-protection devices and more than 300 equipped with cushion underframe; 360 gondolas, of which 135 will be equipped with covers; 165 100-ton open-top hopper cars; 225 multi-level racks for shipment of automobiles; and 50 all-steel cabooses.

FREIGHT-TRAIN CARS

► *Celanese Chemical Co.*—Has placed in service 56 new 20,000-gallon tank cars to handle chemicals between plants at Bishop, Pampa and Bay City, Texas. The aluminum cars were built by Richmond Tank Car & Manufacturing Co., Houston, Texas; they are equipped with steam coil heaters and 100-ton roller bearing trucks.

► *Rock Island.*—Will order 50 70-ton wood-chip hopper cars.

► *Bad Order Ratio Drops.*—Class I roads on Dec. 1, 1965, owned 1,488,356 freight cars, 5,021 less than on Dec. 1, 1964, according to AAR report summarized below. Bad order ratio was 0.4% lower than on Dec. 1, 1964.

	Dec. 1, 1965	Dec. 1, 1964	Change
Car ownership	1,488,356	1,493,377	−5,021
Waiting repairs	83,521	89,438	−5,917
Repair ratio	5.6%	6.0%	−0.4%

LOCOMOTIVES

► *Union Pacific.*—Doubled the number of diesel-electric locomotives it will acquire in 1966. UP had previously planned to purchase 25 units (RA, Aug. 30, p. 73) but now has 50 units programmed—45 at 3,000 hp and five at 2,800 hp. Last year, the road acquired 23 5,000-hp and 10 2,500-hp units.

CAPITAL EXPENDITURES

► *Canadian Pacific.*—Expenditures in 1966 will at least equal the $67 million invested during 1965 in new motive power, rolling stock and related freight equipment.

► *Western Pacific.*—Capital program for 1966 will total $10.3 million, including $7.3 million for locomotives and freight cars. WP will acquire 10 3,000-hp diesel-electric units; 225 50-ft insulated box cars equipped with lading-protection devices; 25 4,700-cu-ft-capacity covered hopper cars; 20 Airslide covered hopper cars, and 15 high-cube box cars. Roadway and plant improvements will involve expenditure of about $3 million.

NEW FACILITIES

► *Baltimore & Ohio.*—Ordered Type J traffic control equipment from General Railway Signal to control the movement of trains over a weighing station at Warwick, Ohio.

► *Norfolk & Western.*—Ordered H-5 signals, relays and M-23 switch layouts from Union Switch & Signal Division of WABCO for CTC installation in the Western Region.

► *Southern Pacific.*—Ordered VR2 control equipment for its Eugene, Ore. class yard from Union Switch & Signal Division of WABCO. Equipment includes Velac speed control apparatus and a digital computer.

FOREIGN

► *Brazil.*—The Export-Import Bank authorized a loan of $17 million for purchase by the Central do Brasil Railway of 69 diesel locomotives. The order will include 49 main line 1800 hp units, 20 shunting units, and spare parts. Builders have not yet been announced.

YOU OUGHT TO KNOW

Hotbox improvement: Hotbox mileage per setoff for the first nine months of 1965 averaged over 1,300,000. This is a substantial improvement over 1964 when the average was approximately 1,175,000 miles per hotbox setoff. Data just released by the AAR Mechanical Division show September mileage at 1,299,490 with 2,061 hotboxes in pad-equipped cars and 36 in cars equipped with "roller bearings and others." Highest average of 1,494,303 was attained in May 1965, lowest in February 1965 with 1,130,661 miles per hotbox setoff.

NRAB final on merits of money award: The National Railroad Adjustment Board has the last word on the merits of a grievance which it makes the basis of a money award. That's what the U.S. Supreme Court said in remanding to a lower court a case on its docket, Gunther vs. San Diego & Eastern. The case involves the removal from service of a 71-year-old engineer for alleged physical disability. NRAB found that the engineer was wrongfully removed and sustained his claim for back pay. The railroad refused to comply, and the engineer went to court. The lower courts upheld the railroad, refusing to accept NRAB's interpretation of the collective bargaining contract involved. That finding on the merits "must be accepted" the Supreme Court said.

Flashing the good news: For many railroad stockholders, this year's crop of annual reports will yield better-than-average news. Chesapeake & Ohio shareowners were, as usual, the first to get the word. In its "flash annual report" issued on the first working day of the new year, C&O reported consolidated earnings for 1965 of $65 million, compared with earnings of $50 million in 1964. (C&O's consolidated earnings include its 90% ownership of the affiliated Baltimore & Ohio and C&O/B&O's 65% ownership of the Western Maryland.)

LV's white fleet: Lehigh Valley is getting some gleaming new equipment—and doesn't want to keep it a secret. So 100 new specially-equipped box cars, delivered during the recent holidays, were painted white. They're a match for seven new (white) Alco diesels delivered earlier. Why a white livery? Answers LV President John Nash: "Why not? There's no law which says they have to be red."

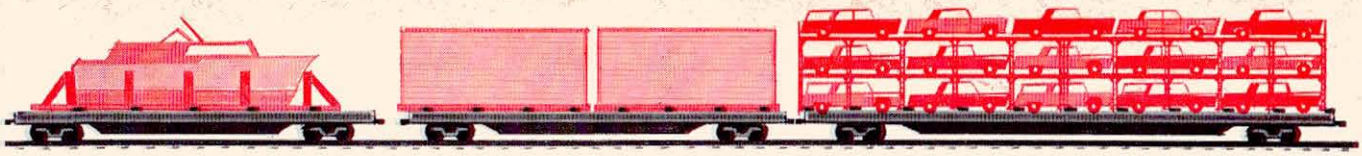
'Quiet revolution:' New York Central had an uncommonly good year in '65, with dividends at their highest point since 1957 (NYC paid $2.60 per share in 1965, compared with $1.77-½ in 1964). Key to improved revenues, says Central, is a "quiet revolution" in the use of new marketing and cost data techniques to determine the rates, equipment and service that will produce the most profitable traffic. Some specific areas of improvement: Flexi-Van container volume rose 21% during 1965's first nine months (Flexi-Van represents one-half of 1% of the road's total equipment, but contributes 17% of total net income); multi-level rack-car traffic reached an all time high of 1,140,000 new autos transported in 1965, up 20% from 1964.

French tie on the way: Railway Automated Machinery Co. (RAMCO), Chicago based subsidiary of Nationwide Leasing Co., will manufacture and market in the U.S. the European-developed RS Concrete Crosstie (named after Roger Sonneville, the French inventor.) RAMCO's agreement was made with Wm. C. Duncan Ltd. of Toronto, which has exclusive rights to the tie in North America, and Societe d'Etudes Ferroviaires (STEDEF) of Paris, France, owner of the patents. According to RAMCO, more than 18 million of the ties have been tested on railroads in more than 20 countries.

Truck tonnage: Intercity truck tonnage in the week ended Jan. 1 was 1.0% above that of the previous week, and 12.6% ahead of volume in the corresponding week of 1965, according to American Trucking Associations.

Current statistics

Net Income	
9 mos., 1965	$540,000,000
9 mos., 1964	500,000,000
Carloadings, revenue freight	
52 wks., 1965	29,553,771
52 wks., 1964	29,027,186
Freight cars on order	
Dec. 1, 1965	42,485
Dec. 1, 1964	29,812
Freight cars delivered	
11 mos., 1965	72,919
11 mos., 1964	62,471
Serviceable cars	
Dec. 1, 1965	1,404,835
Dec. 1, 1964	1,403,939

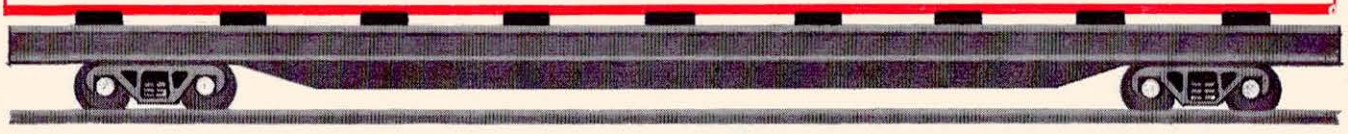


Flat car conversion to Dyna-deck cushioning.

Container car with integral Dyna-deck cushioning.

Special lading car with integral Dyna-deck cushioning.

Put any lading or car superstructure on Dyna-deck rubber mountings. Get all-direction, all-weather shock protection.



Dyna-deck mountings provide simple, versatile, low-cost shock cushioning

Lord Dyna-deck Mountings meet vital shock cushioning needs. They fill the broad, middle range of requirements where extreme long-travel cushioning is unnecessary. And they complement undercar cushioning devices by providing the *all-direction shock control* essential to full protection for lading and car superstructure.

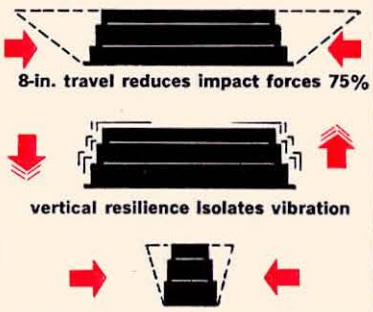
Made of *rubber with a backbone of steel*, Dyna-deck mountings combine resilience and ruggedness to absorb severe shock while carrying extreme loads.

Their 8-inch fore-and-aft travel cushions longitudinal impact. Lateral flexibility absorbs side sway shock. Vertical resilience controls high-frequency vibration. All-direction flexibility accommodates misalignment and prevents frame distortion. Patented design eliminates metal wear surfaces, lubrication and maintenance. And specially compounded rubber resists temperature and weather extremes, grit and grime.

You can use Dyna-deck mounting systems to: (1) convert existing cars to cushioned cars, (2) protect lading without car alteration, and (3) build shock protection for both lading and superstructure into new cars.

For information on other Lord railroad products, ask for our bulletin "Shock Control for Railroads". Lord Manufacturing Company, Division of Lord Corporation, Erie, Pa. 16512. Field Engineering Offices in principal cities. In Canada: Railway & Power Engineering Corporation, Ltd.

this is how Lord controls shock with Dyna-deck mountings



8-in. travel reduces impact forces 75%

vertical resilience isolates vibration

lateral flexibility cushions side sway

The leader in vibration/shock/noise control

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(Continued from page 122)

ager of products of mines and chemical traffic; **W. T. Luksan,** general agent, Birmingham, Ala., named manager of grain and grain products traffic.

Joseph R. Grimes, assistant freight traffic manager, Chicago, named regional sales manager, Omaha. **Fred D. Clouse,** general agent, Chicago, appointed general passenger agent there.

CHESAPEAKE & OHIO.—H. M. Harlow, assistant general supervisor bridges and buildings, promoted to general supervisor bridges and buildings, Huntington, W. Va. **Clyde Williams,** assistant supervisor bridges and buildings, promoted to supervisor bridges and buildings, Ashland Division, Ashland, Ky.

CHICAGO & NORTH WESTERN.—Victor A. Nelson, district sales representative-piggyback, St. Paul, appointed assistant director-piggyback department, Chicago.

Louis T. Duerinck named general attorney, and **Zev Steiger,** attorney.

D. M. Hemenway named engineer of tests, Chicago Shops, to succeed **D. J. Dowling,** who retired Dec. 31 after more than 47 years of service.

FORT WORTH & DENVER.—Orvan E. Stevens appointed general superintendent, Houston, Tex.

FRISCO.—Frank L. Coulter, vice president, Los Angeles, retired Dec. 31 after more than 31 years' service.

GREAT NORTHERN.—M. M. Scanlan, director of economic research, St. Paul, elected vice president-traffic, effective Feb. 1, to succeed **C. E. Finley,** retiring after 42 years' service.

Thomas F. Dowd, city passenger agent, New York, named district freight and passenger agent, Philadelphia, to succeed **A. E. Rohmer,** retired.

C. F. Intlekofer, assistant bridge engineer, Seattle, Wash., appointed district engineer, Lines West, at that point.

GULF, MOBILE & OHIO.—Irving E. Murphy promoted to district freight and passenger agent, San Francisco, Calif., succeeding **W. J. Harvey,** retired.

Ivan H. Wente, assistant vice president, Chicago, retired Dec. 15 after more than 48 years of service.

J. E. Joseph, traveling storekeeper, Mobile, Ala., appointed general storekeeper there, succeeding the late **H. J. Curtis.**

LOUISVILLE & NASHVILLE.—Jerry E. Gobrecht named assistant vice president, coal traffic.

MISSOURI PACIFIC.—Dallas R. Alderman, assistant general freight agent-divisions, named general freight agent-divisions, St. Louis.

NEW HAVEN.—G. A. Clarke, general mechanical superintendent, New Haven, Conn., appointed assistant vice president—mechanical. Mr. Clarke will continue to have full responsibility for the Maintenance of Equipment Department, as well as additional responsibility and duties as assigned.

PUGET SOUND—ALASKA VAN LINES.—George Hutton, general manager of Alaska operations ever since the company was founded in 1959, has been appointed vice president and general manager. Mr. Hutton will take over management of all HYDRO-TRAIN activities in the United States.

H. Wendell Chapman
ASF

H. C. Palmer
Marquardt

Supply Trade

H. Wendell Chapman, vice president—administration, **American Steel Foundries,** Chicago, has been appointed president, succeeding **Edwin Walcher, Jr.,** who remains an AMSTED corporate vice president and director.

H. C. Palmer, midwest regional manager, **Marquardt Corp.,** Chicago, has been appointed manager, marketing and sales, Railroad Transportation Products Section, Pomona, Calif.

Herbert W. Meierdirks has been elected comptroller, **North American Car Corp.**

W. Stuart Johnson, vice president—sales, **Brenco, Inc.,** Petersburg, Va., has been elected executive vice president.

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with conventional

UNGROUND SPRINGS

THE ONLY FREIGHT CAR SPRINGS WITH UNGROUND ENDS THAT MEET A.A.R. SPECIFICATIONS FOR GROUND END TOLERANCES— ELECTRONICALLY LOAD TESTED

. . . at No Extra Cost!

Henry Miller "rite-Angle" springs are on-the-level! Flat top and bottom—they permit load to be applied axially instead of off-center for better service, longer life, reduced maintenance and replacement costs.

Basic qualities? Henry Miller uses the *same* quality steels, heat treatment and shot peening as other quality manufacturers. Every spring is electronically load tested—outer coils to standard 5500 lbs. and inner coils to standard 2200 lbs. All are automatically calibrated to A.A.R. specifications. Springs that don't meet A.A.R. specs are automatically rejected.

Specify Henry Miller "rite-Angle" springs — produced *without* ground ends, that match any springs *with* ground ends—at no extra cost!

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In Adjustable Sidewall Flexibility

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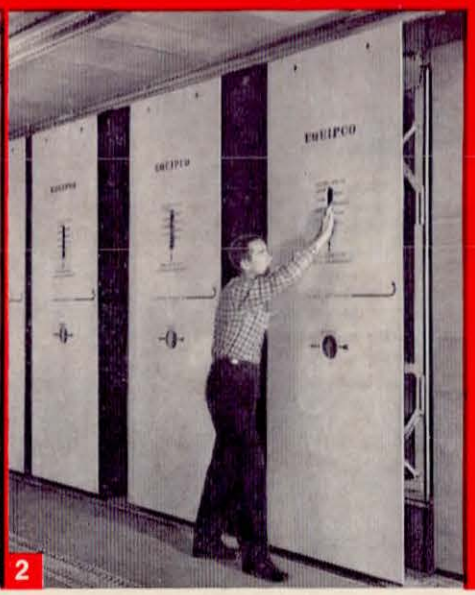
SIDE FILLER



In and out... forward and back... from front or side...
Never before has there been such positioning versatility

Here indeed is the ultimate in adjustable sidewall flexibility. Entirely new, Equipco 8-PL Side Filler combines multiple width positioning with multiple length adjustment to accommodate the varying pallet-load problems of virtually *any* unitized shipper.

Never before has there been such versatility . . . or such remarkable positioning ease. For width adjustment, a single handle controls both the locking system and adjustment mechanism. And the handle can be operated from face of panel or, by means of a unique handle extension, from the forward edge.

Longitudinal adjustment is equally simple. All you do is pull a single cable to release lock . . . and glide panel along. When desired position is reached, release of cable re-engages the lock.

Send today for full data on this new type of Side Filler. We guarantee you've never seen anything like it for all-purpose versatility.

1 **8 different WIDTH positions.** Lets you reduce standard car width to 111", 107", 104", 102", 100½", 99", 98", or 97".

2 **48" of LENGTH adjustment.** Lets you accommodate variations in pallet length (overhang), as well as width.

3 **Can be positioned before or AFTER load is in place.** Unique handle extension affords full control from forward edge of the panel.

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EQUIPMENT SPECIALTIES DIVISION
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Unbeatable Combination!

for Complete Solid-Bearing Protection.

- ALL EFFICIENT. . .
- ALL LOW IN COST. . .
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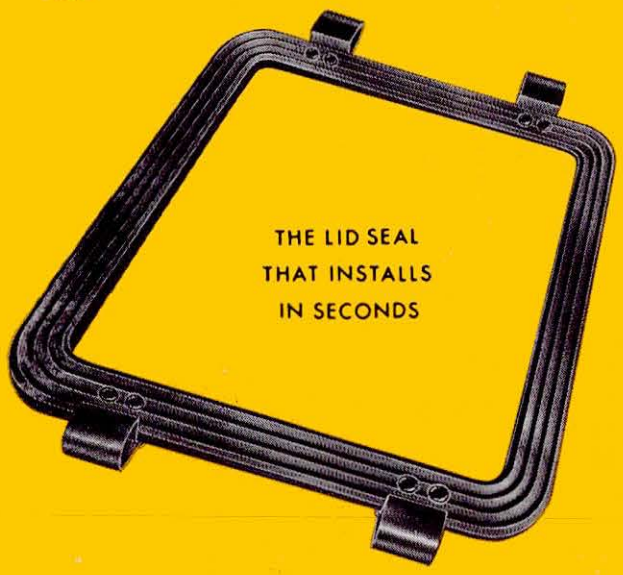
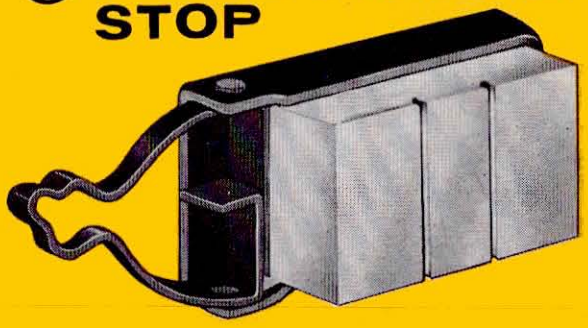
① SEALWELL



THE LID SEAL
THAT INSTALLS
IN SECONDS

② F & B JOURNAL STOP



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OVERSIZE FOAM CORE AND
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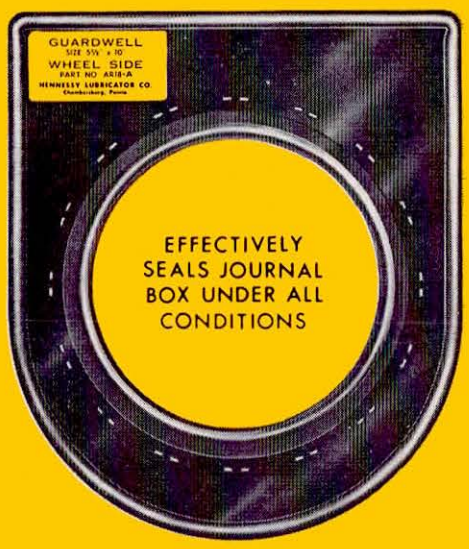

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SEALS JOURNAL
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...uses KEMPLY® LINER TO PROTECT CARGO

Cross section of ¼" KEMPLY enlarged 3 x' s shows relative thickness of surface. Type FG6.

KEMPLY has a thick, hard, impervious surface.

- Holds up under constant impact
- Easily cleaned with steam or detergents
- Does not retain odor of cargo
- Not affected by sub zero temperature
- Installs like conventional plywood
- U. S. D. A. Accepted
- Available white or colored

KEMPLY is not surfaced with a mat, but a closely woven glass fabric. The fibers are imbedded deep in resin, and not close to the surface where they may easily become exposed by abrasion. KEMPLY stops splintered walls from damaging cargo.

KEMPLY is available in thicknesses of ¼", ⅜", ½", ⅝", ¾" and 1"; in standard 4'x 8' panels; and in lengths up to 24 ft.

SPECIFY KEMPLY FOR REEFERS • TRAILERS • CONTAINERS

Send for prices and sample kit No. 24

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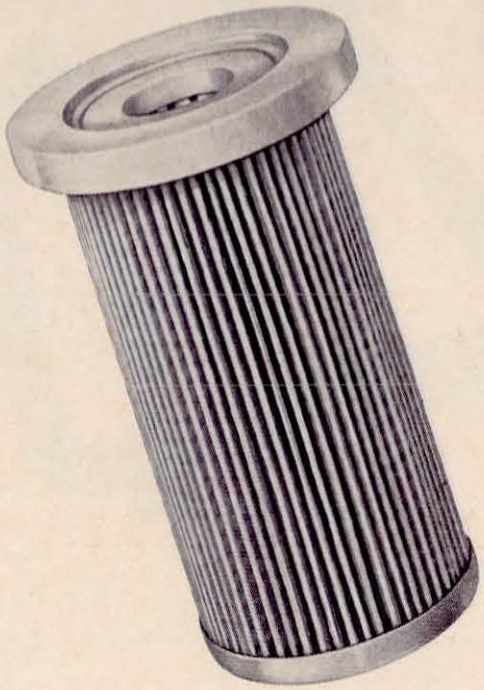
But...

What Does It Cost Each Time You Clean a Sintered Bronze Final Fuel Filter ?



It will pay you to check your cost on cleaning those cup-type sintered bronze Filters. The record will show why it was important for WIX to develop a throw-away pleated paper Filter for this Final Stage Fuel job. Better filtration was one reason...longer service life was another...the mess, inefficiency and waste of time cleaning the sintered bronze was the dollars and sense clincher!

You've probably noticed the short service life of the sintered bronze filter as more and more contaminants became imbedded in the Filter pores. There's no such problem with the greater filtering area of the CX-3510. When it gets dirty, take it out...throw it away and SAVE MONEY.

The CX-3510 is engineered with every pleat of the specially treated Polymite firmly anchored in the Plastisol sealing ring. This end seal has just the right "crush" to form a seal when the Filter cover is pulled down. The CX-3510 comes to you in cartons of 25...each Filter protected by an individual dust- and moisture-proof polyethylene bag. Write for additional information today.

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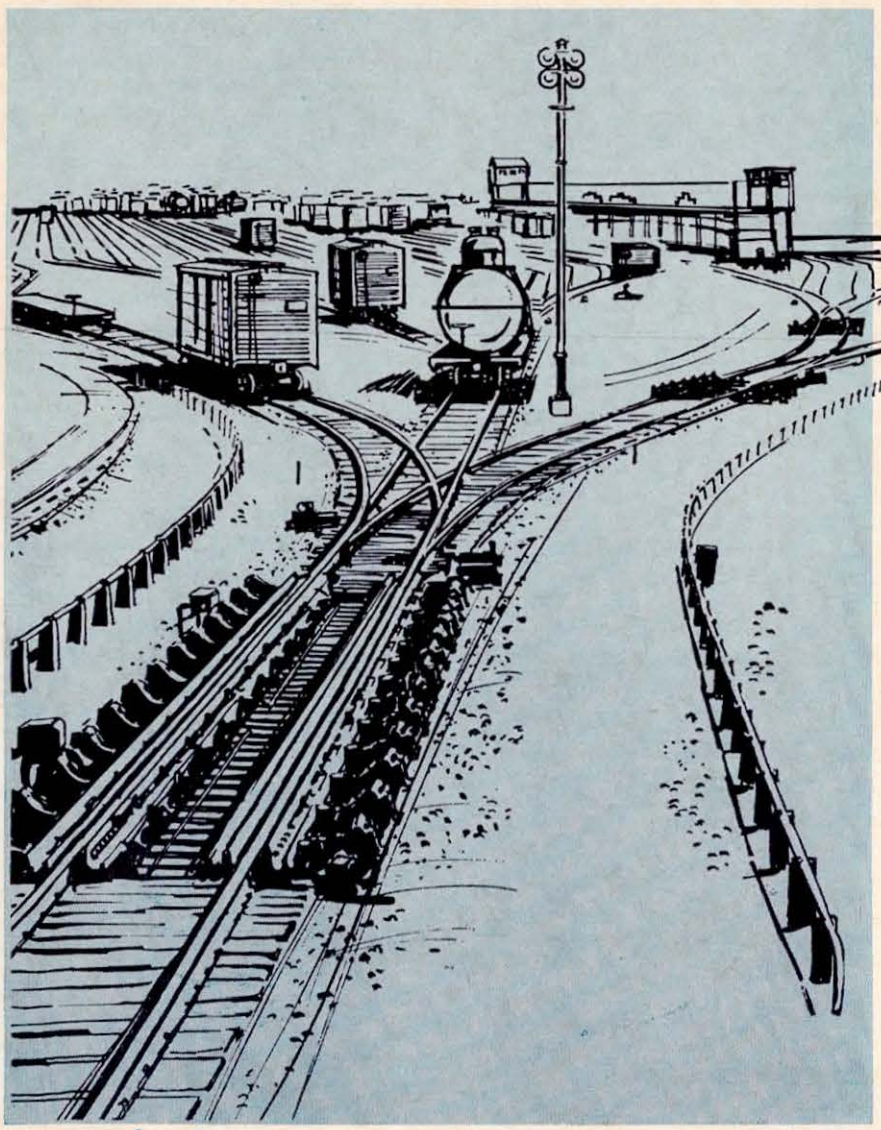
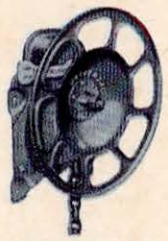
BRAKING IS *Universal*®

Universal brakes and brake adjusters have been designed to meet every car and braking requirement. Whichever Universal braking device meets your particular needs, you can be assured of safety, dependability and durability.





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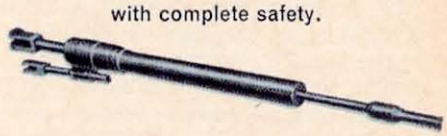
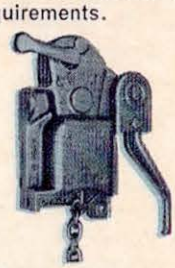
Quick, positive braking action with complete safety.



AUTOMATIC TWO-WAY BRAKE ADJUSTER
Proper piston travel is always maintained.

MULTI-POWER BRAKE WITH DROP SHAFT
Flexible combinations to meet your requirements.



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Meets clearance problems of longer and wider deck flat cars. Quick release, easy operation.

BRAKE ADJUSTER, ROTARY TYPE
Manually operated, rugged and dependable. Maintenance-free; original cost economical.

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CANADIAN CARDWELL CO. LTD., MONTREAL 2, QUEBEC

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Freight-car buying to set a brisk pace

(Continued from page 47)

Specialties at Macon, Gas., and San Bernardino, Cal.; Aeronca Manufacturing at Middletown, Ohio; Southern Iron & Equipment at Atlanta, Ga., Darby Corp. at Kansas City, Mo.; and Gunderson Brothers at Charlestown, W. Va.

"Our new multi-million-dollar production facility at Charleston, W. Va., will be brought on stream some time in the first quarter," reports R. E. Gunderson, vice president of Gunderson Brothers, a subsidiary of FMC Corp. Aeronca, which produced a 260-ton, four-unit articulated hopper car with eight single-axle trucks for the Southern last summer, distinguished itself by becoming the first aerospace company to enter the railway field.

Southern Iron & Equipment's purchase of the former Pullman Company repair shop at Atlanta, Ga., has given this traditional used-equipment dealer a capacity for building new cars which is described as "the second largest in the South." An extension to existing facilities will be utilized initially in the production of 600 pulpwood cars, scheduled to begin rolling out in February.

● **Old-line approach.** The established carbuilders are handling their share of the current building boom with facilities which frequently were beefed up during the slim days of the early '60s. "Plant changes effected in 1962, together with establishing of the ACF Technical Center and consolidation of our operations at St. Charles, Mo., have produced the benefits expected," says an ACF spokesman. "While capital improvements are being made continually, there are no plans for major new plant facilities in 1966."

"The ability of Pullman-Standard to sharply increase its production in 1964 and 1965 stemmed directly from its policy of maintaining and improving its facilities and intensifying its research and development efforts during earlier periods of reduced carbuilding volume," explains G. L. Green, P-S vice president and general manager.

"Part of the $4.5-million capital-improvement program approved in 1965 for P-S freight car plants includes construction of a new Technical Center at Hammond, Ind., which will open in mid-1966. The Butler, Pa., plant is being expanded early in 1966 to mass produce covered hopper cars in various sizes up to 6,300-cubic-foot capacity. Plans are in the making to renovate the company's Hammond, Ind., facility to rebuild and finish freight cars while increasing capacity to build a full line of freight-car parts. Production at Hammond will be coordinated with the freight-car plant at Michigan City, Ind."

● **Takes long-range planning.** Bethlehem Steel, says C. M. Wright, manager of railroad product sales, is engaged in long-range planning which involves forecasting future freight-car business as it is affected by growing ton-miles, changing railroad participation in ton-miles to be hauled, increasing car size, utilization of equipment and other factors. "We are studying these factors carefully in order that Bethlehem operation may be properly geared to the long-term market for freight cars," reports Wright. Bethlehem builds cars at Johnstown, Pa.

Thrall Car is in the midst of a plant expansion now. Two significant extensions of its recently built Plant 2 at Chicago Heights, Ill., are being pushed, and its original Plant 1 is undergoing extensive rebuilding. Greenville Steel Car, reports G. C. Brecht, sales vice president, is continuing substantial capital improvements at Greenville, Pa., which were projected over a five-year period. "Our third production track added under this program has paid off handsomely," adds Brecht.

North American Car has two up-to-date plants where new cars for its leasing operations are assembled—one at Chicago Ridge, Ill., and the other at Texarkana, Tex. There also are new facilities in prospect. "Because of the large number of railroads paying double loaded mileage for tank cars—and nothing on empty mileage," explains NAC's Hallberg, "it will be necessary to increase the number of our repair points."

Richmond Tank Car & Manufacturing reports that its tank-car-building facilities in Houston, Tex., were enlarged in 1965 and that new cars were built at the RTC&M plant in Richmond, Cal.

● **Canadian outlook.** Matching the U.S. pattern, carbuilding has been a growth industry in Canada and promises to remain one. As in the U.S., there have been new entries in the carbuilding field. One of them is Vancouver Bridge & Engineering of Vancouver, B.C.

It is expected that 6,000 new cars will be built for Canadian service during 1966 and again in 1967. Hawker Siddeley Canada expects to build 2,000 cars in 1966, valued at approximately $30 million. While the dollar volume will be about the same as in 1965, the number of units will be somewhat higher because of the unusual number of high-value cars, such as mechanical reefers, which were produced last year.

"The majority of cars for the Canadian market are of special design,"

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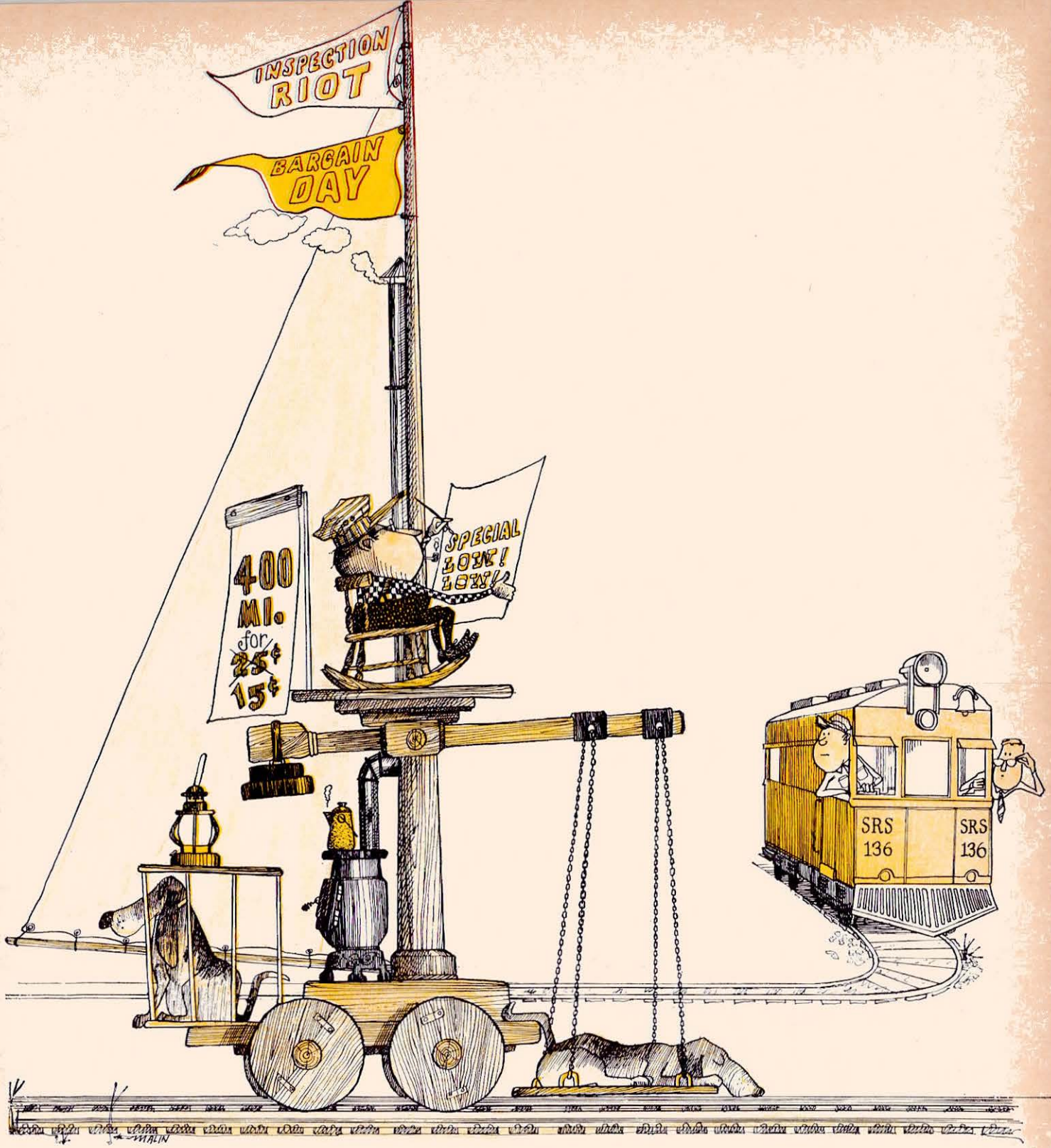

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says W. D. Walker, vice president of Hawker Siddeley's Transportation Divisions. "There was an increasing demand for tank cars in 1965, and this particular demand is continuing throughout the entire 1966 production year. There is also a continuing demand for covered hopper cars—particularly for potash service, and for other special cars such as flats for containers, box cars for newsprint, wood chip cars, and coil cars."

In Canada there has been the same trend to larger cars that exists in the U.S. An ever-increasing portion of the Canadian freight cars now ordered are 100-ton size. Walker expects the trend to continue.

"Hawker Siddeley has been constantly expanding its facilities in the past two years," Walker reports. "In 1965 we had our first full year of tank production and initiated a special small assembly track for tank cars. Late in 1965 we commenced production on another line which will be utilized probably through 1966 for covered hopper cars. These two car lines are in addition to our main car production lines at Trenton, Nova Scotia. Further plant additions and betterments are in the planning stage."

• **What's ahead?** After an exceedingly good 1965, what do U.S. carbuilders see for this year and the years beyond? "Carbuilders should be able to look forward to many years of high-level operations if they continue to stress the new technology, backed by intensive research and development," predicts Pullman-Standard's Green. "P-S wound up its most productive year in history with deliveries of about 17,250 cars; from present indications this number will be exceeded in 1966. Dollar volume increase will be even greater."

AFC forecasts an increase of 5% to 10% in its car business this year, compared with last. The market for box, covered hopper, piggyback and tank cars seems to be sufficiently strong to carry ACF through at least the first quarter of 1967 at present rates.

Bethlehem sees 1966 being "at least as good" as 1965 with piggyback cars, 100-ton hoppers, and small numbers of specialized cars continuing to dominate its production schedules. It is expected that dollar volume will outstrip the unit volume as larger and more sophisticated cars are produced.

• **Western wood products.** Gunderson expects its two plants to build 4,200 cars this year, about double the production of 1965. Demand is for wood chip cars, solid-bottom gondolas, and box and flat cars. Growth of the pulp and paper industry in the West is expected to produce demand for wood-chip equipment "well into 1967." Gunderson notes that many railroads now specify that their 70-ton cars be designed with frames stressed for 100-ton loads so that conversion can be made later with a minimum of alteration and the substitution of 100-ton trucks.

Magor sees 1966 "equalling or bettering 1965 operations." Greenville expects to build 3,500 cars in 1966—with dollar volume well ahead of 1965 or any prior year. No significant change in orders is seen by Greenville through 1967 and 1968. Thrall expects to build over 4,000 cars this year—up by over 30% from 1965, with dollar volume increasing at about the same rate.

No significant change in the types of cars to be built in the near term is seen by Magor, Greenville or Thrall.

Evans expects to build "slightly more" cars in 1966 than the almost 3,000 it turned out in 1965. Again, box and coil cars will predominate in production. On drawing boards at Evans are a building-products flat car with adjustable bulkheads and a new type of coil-steel car.

North American expects to add between 2,400 and 3,000 cars to its fleet this year, with volume up to $54 million. While these will include covered hopper, insulated box and tank cars, it is expected that the largest increase will be in tankers of 20,000- to 30,000-gallon capacity designed for specific commodities. ■

Dividends Declared

CANADIAN PACIFIC.—$1.40, final, payable Feb. 7 to holders of record Dec. 23.

CANADA SOUTHERN.—$1.50, semiannual, payable Feb. 1 to holders of record Jan. 11.

COLORADO & SOUTHERN.—1st Preferred, $4 paid Dec. 30 to holders of record Dec. 16.

CHICAGO GREAT WESTERN.—Preferred, 62½¢, quarterly, paid Dec. 31 to holders of record Dec. 23.

DELAWARE & HUDSON.—Year-end, 35¢, paid Dec. 28 to holders of record Dec. 10.

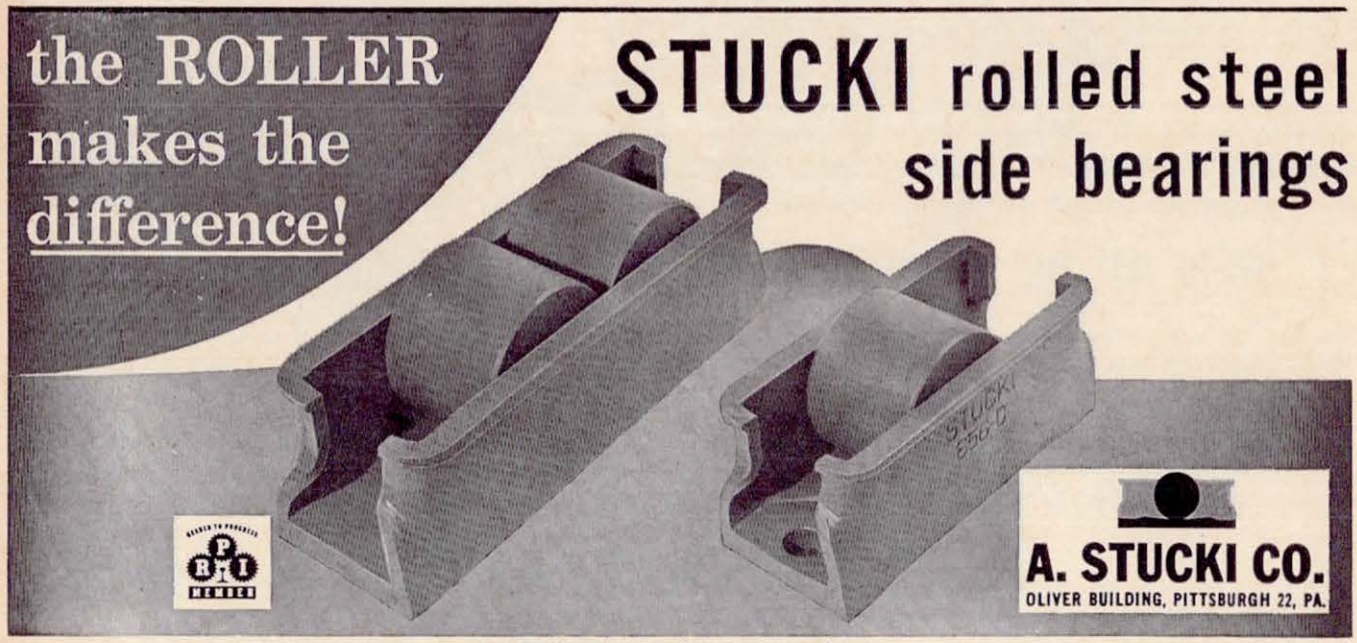
GREAT NORTHERN.—75¢, quarterly, payable Feb. 1 to holders of record Jan. 14.

MAHONING COAL RR.—Preferred, 2½%, semiannual, paid Jan. 1 to holders of record Dec. 24; $15, quarterly; $7.50, extra, both paid Dec. 30 to holders of record Dec. 24.

NEW YORK CENTRAL.—52¢, increased, quarterly; $1.105, extra, both paid Dec. 31 to holders of record Dec. 21.

NORTHERN CENTRAL.—$2, semiannual, payable Jan. 17 to holders of record Dec. 31.

NORTHERN PACIFIC.—65¢, increased, quarterly, payable Jan. 31 to holders of record Jan. 10.



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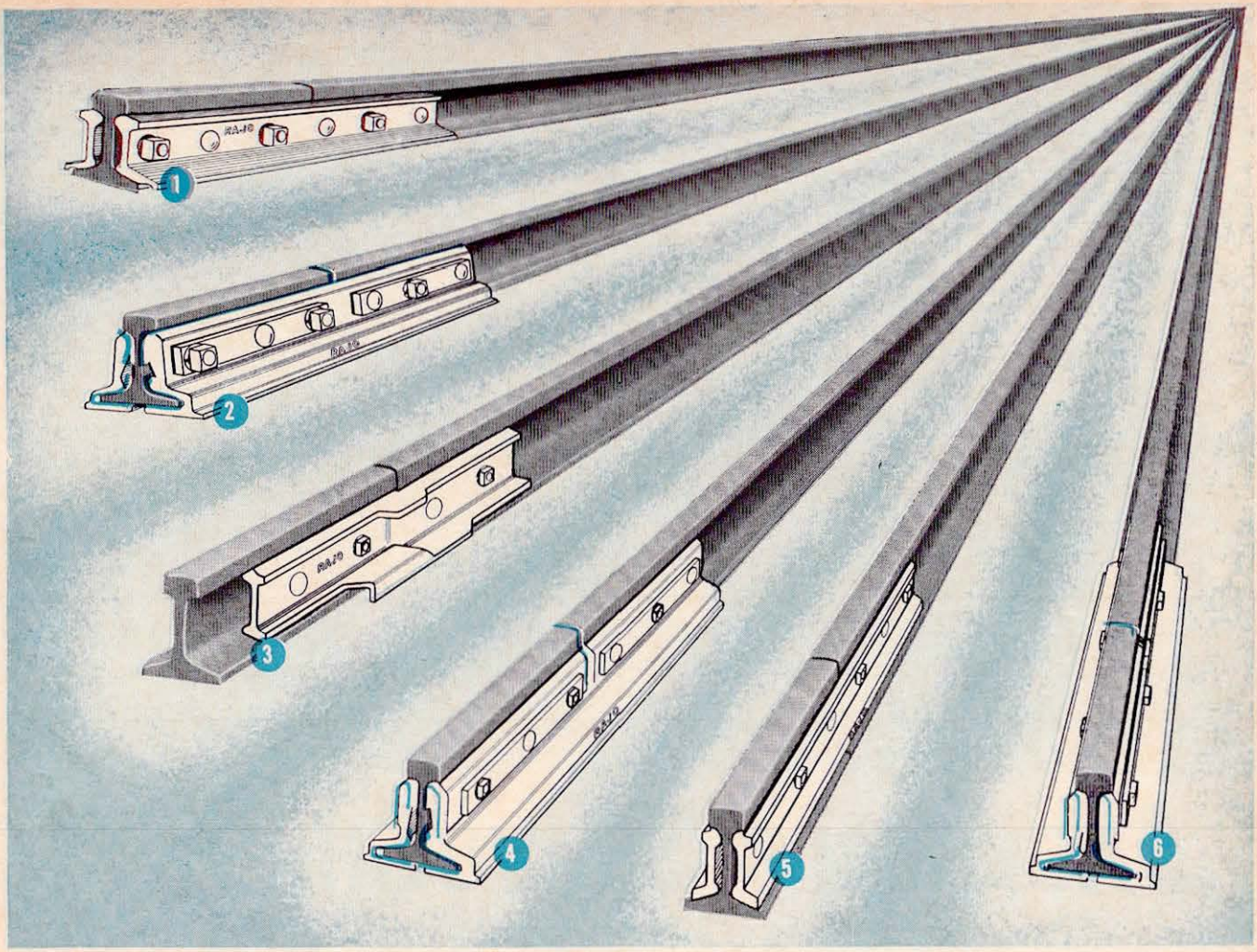

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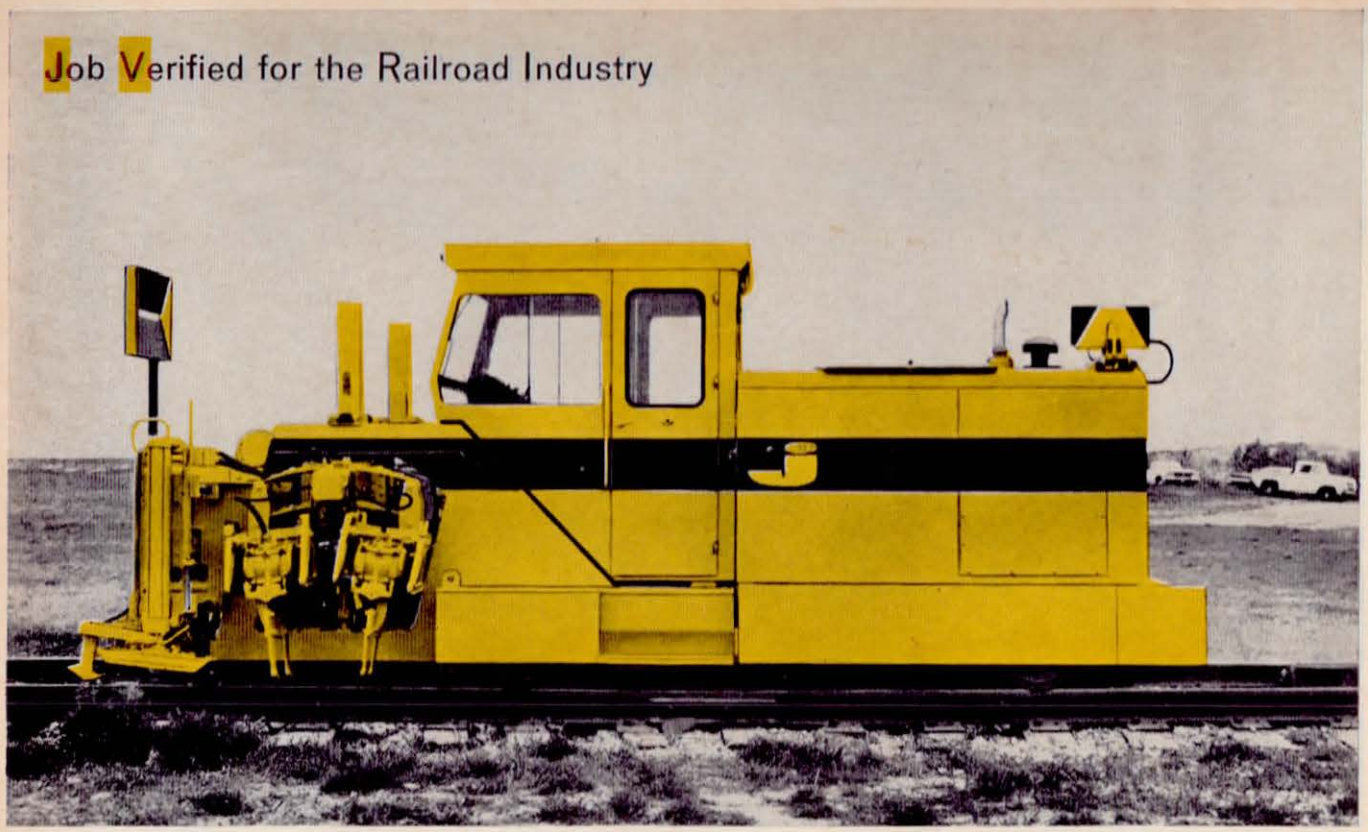

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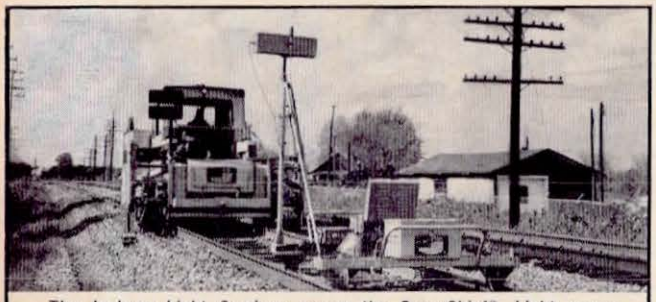
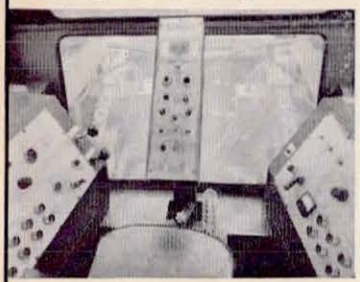


The Jackson Light Carriage serves the ServoChief®. Light sensor photo-cells on the tamper receive jacking instructions beamed from the light carriage through a slotted metal mask.



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MANAGER OF EXPENDITURES

Would prefer previous Railroad experience coupled with a formal education in accounting. This is not a prerequisite if the man has a degree in accounting, experience with a public accounting firm, a working knowledge of IBM data processing and has ability to manage a department of 150 employees.

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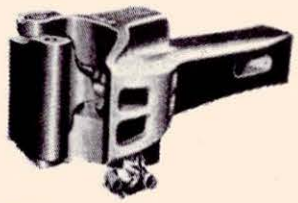

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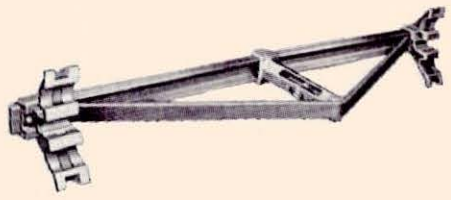

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THE ACTION PAGE

How are the Sixties shaping up?

When the decade of the Sixties entered its seventh year a few days ago we checked our files to see what the future looked like as the Fifties faded. We were impressed with the accuracy of predictions made by the oracles of the financial press. In the final days of 1959 and the early days of 1960 there was much talk of the "Soaring Sixties" and the "Sizzling Sixties." Now one can look back and see the upward movement of practically every financial, industrial and commercial index.

But the financial savants were wrong about railroads. Almost without exception the best minds in the financial community did not see how railroads could possibly participate in the strong upward trends visible everywhere else in the economy. Railroads, they pointed out, were saddled with too much and too unfair regulation, excess plant, obsolete labor contracts, properties and fleets in need of massive refurbishing, and too few ideas for breaking out of the downward spiral into which the industry headed after World War II.

Railway Age, as the decade began, assessed the industry's future as hinging on the carriers' ability to reverse two serious trends—the rising operating costs per 100 pounds of freight and the continuing diversion of freight traffic away from railroads (two obviously related trends based on complex, interrelated rate, service, equipment, competitive, labor and regulatory problems).

As the Fifties ended, the investing public was obviously betting the carriers couldn't find answers fast enough. Railroad securities headed toward depression-era levels even though the nation's industrial and commercial activity increased steadily in the early years of the Sixties. Many experienced observers felt railroads had had it. "It would take a miracle for railroads to turn around in the Sixties," was the summing-up of one security analyst.

The miracle is on the way

Now, in the early days of 1966, it is pretty obvious that the industry is well on its way toward pulling off that miracle. Railroad men have broken the industry out of the downward spiral with a whole series of important achievements. The industry has parlayed dramatic hardware and technique betterments into market-service-rate moves that are reflected in both increased tonnage and improved ability to go after even more business.

Railroad men have also fought for a better regulatory deal. They have made some progress in Washington. They have also made some progress at local levels combating unfair taxation of railroad property. Not nearly enough progress has been made in these areas, but railroaders are hopeful that even more progress will be made in the rest of the Sixties.

Piggyback, unit trains, a substantially upgraded car-fleet, better power, computerization of paper work, savvy marketing programs, mergers and a thousand other improvements being generated by the ideas of alert, aggressive railroad managers are the visible evidence of the miraculous rebirth of railroads.

And history is catching up to the competition. Soaring charges for highway carriage are forcing more and more shippers into cost-analysis research of total distribution costs. This tends to make winners of railroads. Railroads have held the price line despite rising wage and material costs. The industry's grim holding of the price line (as the gap between highway and rail charges widened during the first half of the Sixties) is certainly one of the most brilliant strategic achievements in the industry's recent history.

Almost 700 billion ton-miles in '65

Rail tonnage, which declined from 65.3% of intercity traffic in 1947 to 46% in 1958, finally leveled off and held steady between 43% and 44% all during the first half of the Sixties. Just halting a decline in their share of traffic enabled the industry to raise tonnage handled from 579 billion ton-miles in 1960 to almost 700 billion ton-miles in 1965.

Needless to say, the 120 billion additional ton-miles the carriers handled last year over the traffic of 1960 are a strong factor in reversing the trend toward rising unit costs that were causing such gloom in railroad circles as the Sixties began. Just as obviously, railroads have largely stopped the diversion of traffic to other modes with some of the most aggressive competitive actions in the industry's long history.

Importantly, these trends are signposts to what the industry can do during the rest of the Sixties. Railroads are reporting unusually heavy traffic—even heavier than one might expect from the quite bullish predictions made by the shippers late last year. Now that the Interstate Commerce Commission is giving weight to the reduced costs that are generated by volume, this paper is confident the industry's pressure on the competition will increase steadily during the rest of the Sixties. Railroad gains have been made during the first half of the decade because of an expanding flow of intercity traffic—and because the carriers were able to hold on to their share of it. Not only will the carriers continue to benefit from an expanding economy during the rest of the Sixties, but they will start to benefit handsomely from traffic won back to the rails.

Perhaps the single most important aspect of the railroad turnaround in the mid-Sixties is that railroad service is better than it has ever been before. It is the best buy available to most traffic managers relative to competition and the inflationary price rises in practically everything else bought by the nation's industrial and commercial establishments.

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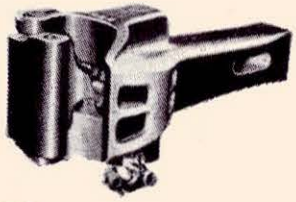

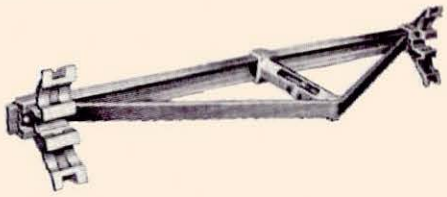

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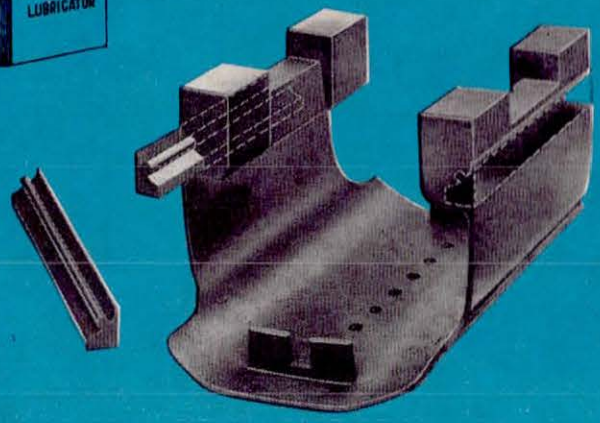

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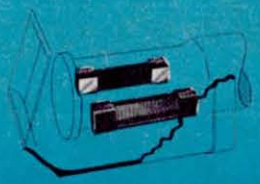

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THE ACTION PAGE

How are the Sixties shaping up?

When the decade of the Sixties entered its seventh year a few days ago we checked our files to see what the future looked like as the Fifties faded. We were impressed with the accuracy of predictions made by the oracles of the financial press. In the final days of 1959 and the early days of 1960 there was much talk of the "Soaring Sixties" and the "Sizzling Sixties." Now one can look back and see the upward movement of practically every financial, industrial and commercial index.

But the financial savants were wrong about railroads. Almost without exception the best minds in the financial community did not see how railroads could possibly participate in the strong upward trends visible everywhere else in the economy. Railroads, they pointed out, were saddled with too much and too unfair regulation, excess plant, obsolete labor contracts, properties and fleets in need of massive refurbishing, and too few ideas for breaking out of the downward spiral into which the industry headed after World War II.

Railway Age, as the decade began, assessed the industry's future as hinging on the carriers' ability to reverse two serious trends—the rising operating costs per 100 pounds of freight and the continuing diversion of freight traffic away from railroads (two obviously related trends based on complex, interrelated rate, service, equipment, competitive, labor and regulatory problems).

As the Fifties ended, the investing public was obviously betting the carriers couldn't find answers fast enough. Railroad securities headed toward depression-era levels even though the nation's industrial and commercial activity increased steadily in the early years of the Sixties. Many experienced observers felt railroads had had it. "It would take a miracle for railroads to turn around in the Sixties," was the summing-up of one security analyst.

The miracle is on the way

Now, in the early days of 1966, it is pretty obvious that the industry is well on its way toward pulling off that miracle. Railroad men have broken the industry out of the downward spiral with a whole series of important achievements. The industry has parlayed dramatic hardware and technique betterments into market-service-rate moves that are reflected in both increased tonnage and improved ability to go after even more business.

Railroad men have also fought for a better regulatory deal. They have made some progress in Washington. They have also made some progress at local levels combating unfair taxation of railroad property. Not nearly enough progress has been made in these areas, but railroaders are hopeful that even more progress will be made in the rest of the Sixties.

Piggyback, unit trains, a substantially upgraded carfleet, better power, computerization of paper work, savvy marketing programs, mergers and a thousand other improvements being generated by the ideas of alert, aggressive railroad managers are the visible evidence of the miraculous rebirth of railroads.

And history is catching up to the competition. Soaring charges for highway carriage are forcing more and more shippers into cost-analysis research of total distribution costs. This tends to make winners of railroads. Railroads have held the price line despite rising wage and material costs. The industry's grim holding of the price line (as the gap between highway and rail charges widened during the first half of the Sixties) is certainly one of the most brilliant strategic achievements in the industry's recent history.

Almost 700 billion ton-miles in '65

Rail tonnage, which declined from 65.3% of intercity traffic in 1947 to 46% in 1958, finally leveled off and held steady between 43% and 44% all during the first half of the Sixties. Just halting a decline in their share of traffic enabled the industry to raise tonnage handled from 579 billion ton-miles in 1960 to almost 700 billion ton-miles in 1965.

Needless to say, the 120 billion additional ton-miles the carriers handled last year over the traffic of 1960 are a strong factor in reversing the trend toward rising unit costs that were causing such gloom in railroad circles as the Sixties began. Just as obviously, railroads have largely stopped the diversion of traffic to other modes with some of the most aggressive competitive actions in the industry's long history.

Importantly, these trends are signposts to what the industry can do during the rest of the Sixties. Railroads are reporting unusually heavy traffic—even heavier than one might expect from the quite bullish predictions made by the shippers late last year. Now that the Interstate Commerce Commission is giving weight to the reduced costs that are generated by volume, this paper is confident the industry's pressure on the competition will increase steadily during the rest of the Sixties. Railroad gains have been made during the first half of the decade because of an expanding flow of intercity traffic—and because the carriers were able to hold on to their share of it. Not only will the carriers continue to benefit from an expanding economy during the rest of the Sixties, but they will start to benefit handsomely from traffic won back to the rails.

Perhaps the single most important aspect of the railroad turnaround in the mid-Sixties is that railroad service is better than it has ever been before. It is the best buy available to most traffic managers relative to competition and the inflationary price rises in practically everything else bought by the nation's industrial and commercial establishments.

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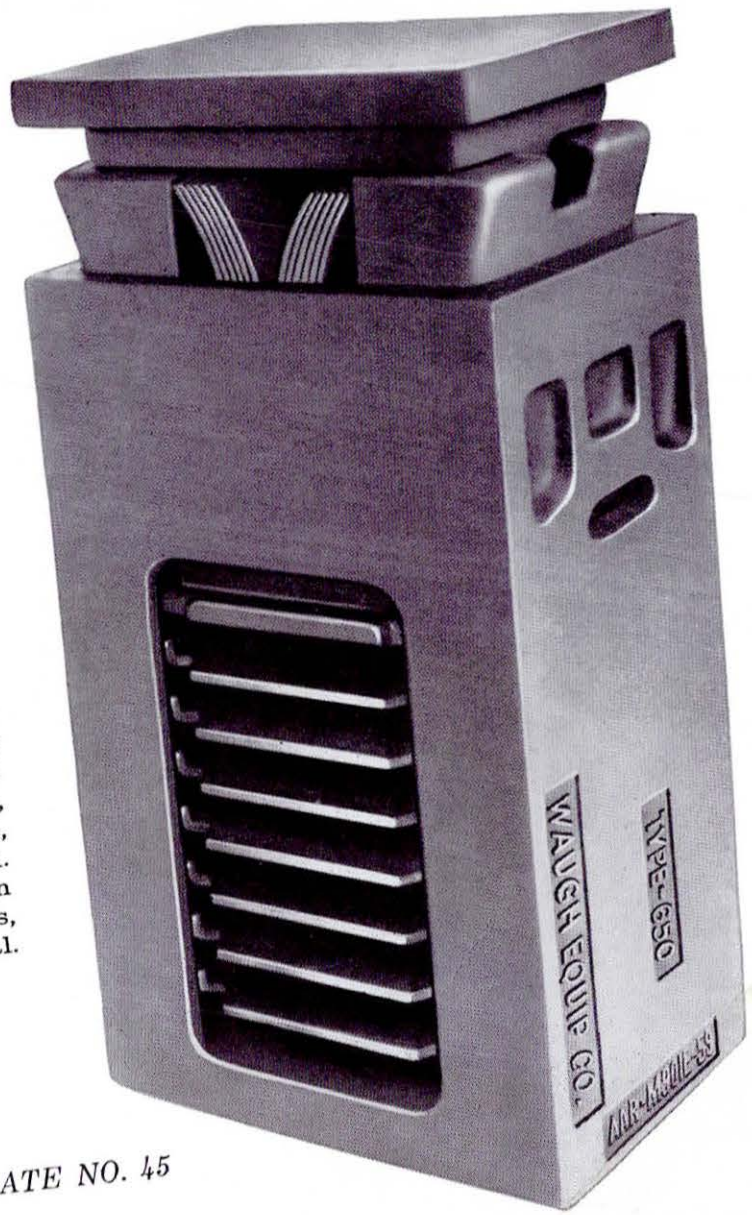

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